THE ARCHITECTS' JOURNAL



standard contents

every issue does not necessarily contain all these contents, but they are the regular features which continually recur

NEWS and COMMENT

Astragal's Notes and Topics
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Diary
Criticism

TECHNICAL SECTION

Information Sheets
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Working Details
Questions and Answers
Prices
The Industry

CURRENT BUILDING

Major Buildings described:
Details of Planning, Construction, Finishes and Costs
Buildings in the News
Building Costs Analysed

Architectural Appointments Wanted and Vacant

Vol. 134 No. 6

THE ARCHITECTURAL PRESS
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Registered as a Newspaper.

★ A glossary of abbreviations of Government Departments and Societies and Committees of all kinds, together with their addresses and telephone numbers. The glossary is published in two parts—A to Ii one week, Il to Z the next. In all cases where the town is not mentioned the word LONDON is implicit in the address.

ILA	Institute of Landscape Architects. 1, Park Crescent, W1	Museum 3473
I of Arb	Institute of Arbitrators. Hastings House, 10, Norfolk Street, WC2	Temple Bar 4071
IOB	Institute of Builders. 48, Bedford Square, WC1	Museum 7197
IQS	Institute of Quantity Surveyors. 98, Gloucester Place, W1	Welbeck 1859
IR	Institute of Refrigeration. Dalmeny House, Monument Street, EC3	Avenue 6851
IRA	Institute of Registered Architects. 68, Gloucester Place, W1	Hunter 1945
ISE	Institution of Structural Engineers. 11, Upper Belgrave Street, SW1	Sloane 7128
JFRO	Joint Fire Research Organisation (DSIR & Fire Offices' Committee). Fire Research Station, Boreham Wood, Herts.	Elstree 1341/1797
LDA	Lead Development Association. 34, Berkeley Square, W1	Grosvenor 8422
LMBA	London Master Builders' Association. 47, Bedford Square, WC1	Museum 3891
MAFF	Ministry of Agriculture, Fisheries and Food. Whitehall Place, SW1	Trafalgar 7711
MOE	Ministry of Education. Curzon Street House, W1	Hyde Park 7070
MOH	Ministry of Health. 23, Savile Row, W1	Regent 8411
MOHLG	Ministry of Housing and Local Government. Whitehall, SW1	Whitehall 4300
MOLNS	Ministry of Labour and National Service, 8, St. James's Square, SW1	Whitehall 6200
MOS	Ministry of Supply. Shell-Mex House, WC2	Gerrard 6933
MOT	Ministry of Transport. Berkeley Square House, W1	Mayfair 9494
MOW	Ministry of Works. Lambeth Bridge House, SE1	Reliance 7611
NAMMC	Natural Asphalte Mine Owners and Manufacturers Council. 14, Howick Place, Victoria Street, SW1	Victoria 1600 & 6477
NAS	National Association of Shopfitters. 2, Caxton Street, SW1	Abbey 4813
NBR	National Buildings Record. Fielden House, 10, Great College Street, Westminster, SW1	Whitehall 6554
NCBMP	National Council of Building Material Producers. 10, Storey's Gate, SW1	Abbey 5111
NEFMAI	National Employers Federation of the Mastic Asphalt Industry. 21, John Adam Street, Adelphi, WC2	Trafalgar 3927
NFBPM	National Federation of Builders' and Plumbers' Merchants, High Holborn House, 52-54, High Holborn, WC1	Chancery 7772/7
NFBTE	National Federation of Building Trades Employers. 82, New Cavendish Street, W1	Langham 4041/4054
NFBTO	National Federation of Building Trades Operatives. Federal House, Cedars Road, Clapham, SW4	Macaulay 4459
NFHS	National Federation of Housing Societies. 12, Suffolk St., SW1	Whitehall 1631
NHBRC	National House Builders Registration Council. 58, Portland Place, W1	Langham 0064/5
NJCBI	National Joint Council for the Building Industry 11, Weymouth Street, W1	Langham 2785
NPL	National Physical Laboratory. Head Office, Teddington	Teddington Lock 3222
NRDB	Natural Rubber Development Board. Market Buildings, Mark Lane, EC3	Mansion House 9383
NSAS	National Smoke Abatement Society. Palace Chambers, Bridge Street, SW1	Trafalgar 6838
NT	National Trust. 42, Queen Anne's Gate, SW1	Whitehall 0211
PEP	Political and Economic Planning. 16, Queen Anne's Gate, SW1	Whitehall 7245
RCA	Reinforced Concrete Association. 94, Petty France, SW1	Abbey 4504
RIAS	Royal Incorporation of Architects in Scotland. 15, Rutland Square, Edinburgh	Fountainbridge 7631
RIB	Rural Industries Bureau. 35, Camp Road, SW19	Wimbledon 5101
RIBA	Royal Institute of British Architects. 66, Portland Place, W1	Langham 5533
RICS	Royal Institution of Chartered Surveyors. 12, Great George Street, SW1	Whitehall 5322/9245
RFAC	Royal Fine Art Commission. 5, Old Palace Yard, SW1	Whitehall 3935
RS	Royal Society. Burlington House, Piccadilly, W1	Regent 3335
RSA	Royal Society of Arts. 6, John Adam Street, WC2	Trafalgar 2366
RSH	Royal Society of Health. 90, Buckingham Palace Road, SW1	Sloane 5134
SBPM	Society of British Paint Manufacturers. Grosvenor Gardens House, Grosvenor Gardens, SW1	Victoria 2186
SE	Society of Engineers. Abbey House, Victoria Street, SW1	Abbey 7244
SFMA	School Furniture Manufacturers' Association. 30, Cornhill, EC3	Mansion House 3921
SIA	Society of Industrial Artists. 7, Woburn Square, WC1	Langham 1984/5
SIA	Structural Insulation Association. 32, Queen Anne Street, W1	Langham 7616
SNHTPC	Scottish National Housing. Town Planning Council. Hon. Sec., Robert Pollock, Town Clerk, Rutherglen.	
SPAB	Society for the Protection of Ancient Buildings. 55, Great Ormond Street, WC1	Holborn 2646
TCPA	Town and Country Planning Association. 28, King Street, Covent Garden, WC2	Temple Bar 5006
TDA	Timber Development Association. 21, College Hill, EC4	City 4771
TPI	Town Planning Institute. 18, Ashley Place, SW1	Victoria 8815
TTF	Timber Trades Federation. 75, Cannon Street, EC4	City 5040
WDC	War Damage Commission. Eagle House, 90/96, Cannon Street, EC4	Mincing Lane 2000
ZDA	Zinc Development Association. 34, Berkeley Square, W1	Grosvenor 6636

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Manufacturers of Cooking Apparatus

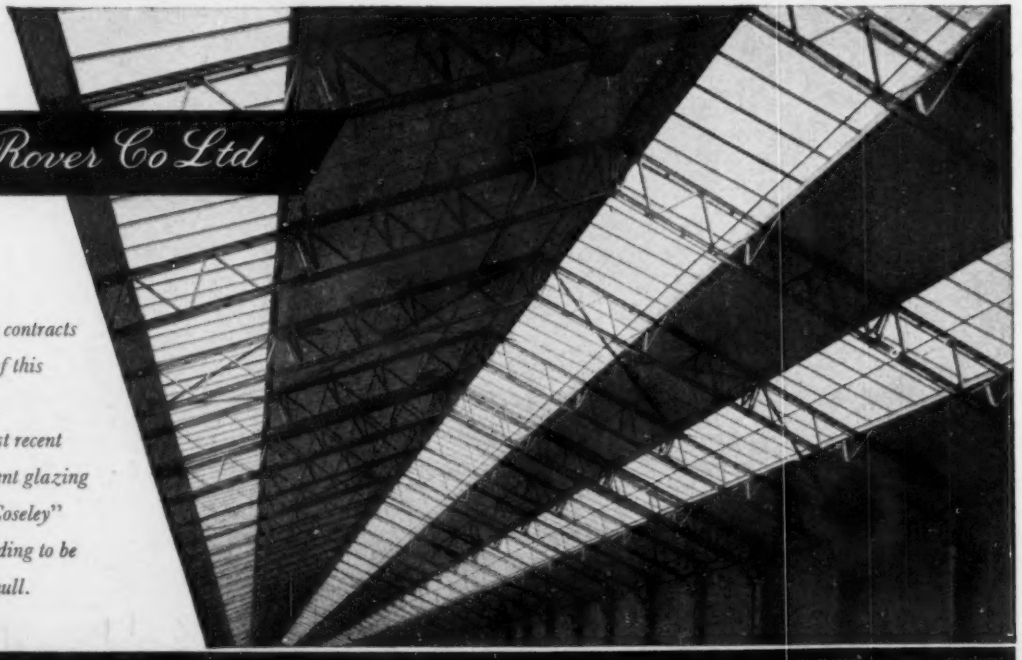
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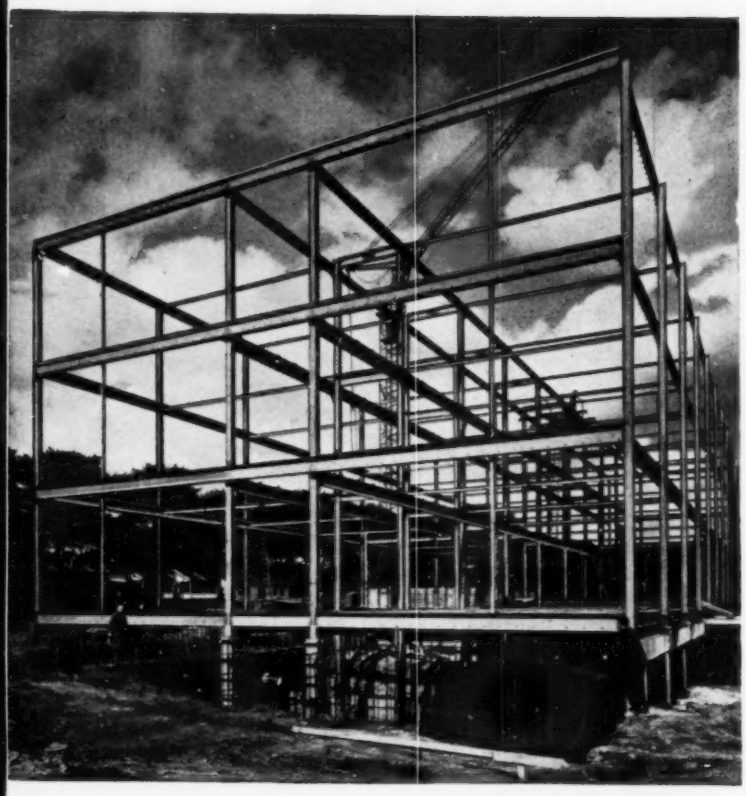
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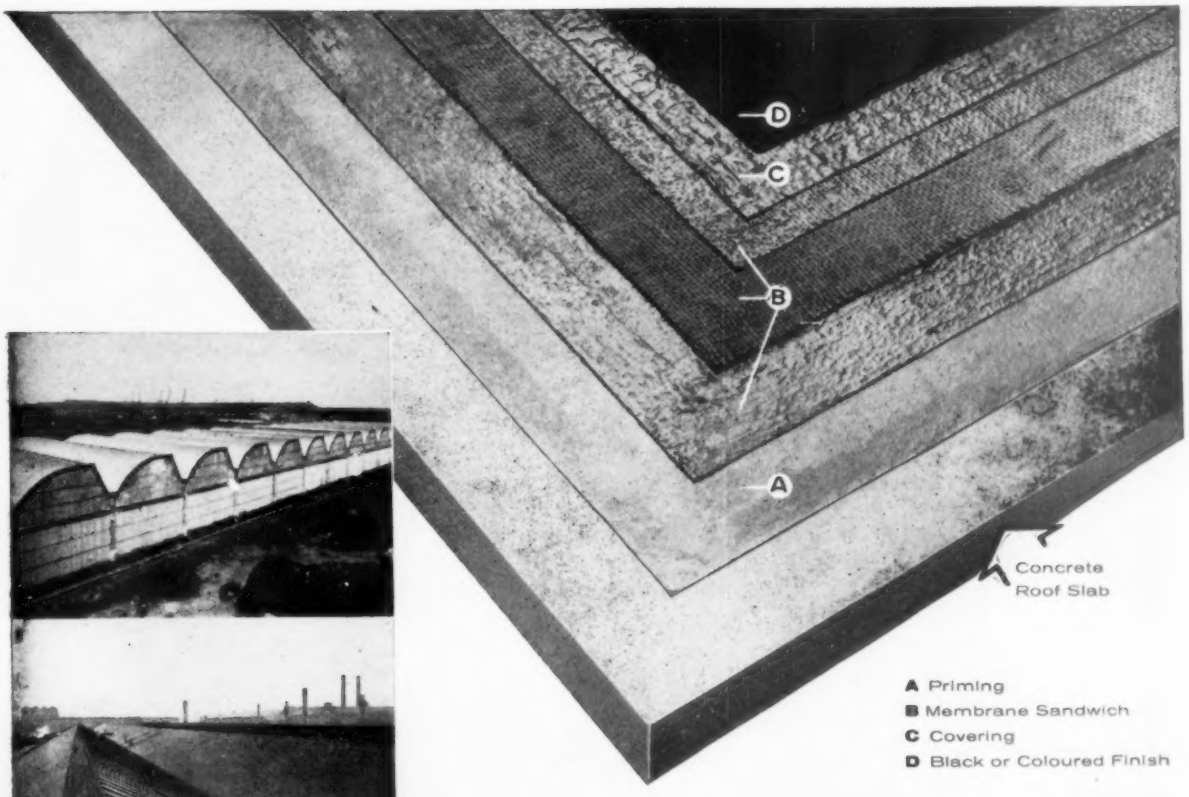
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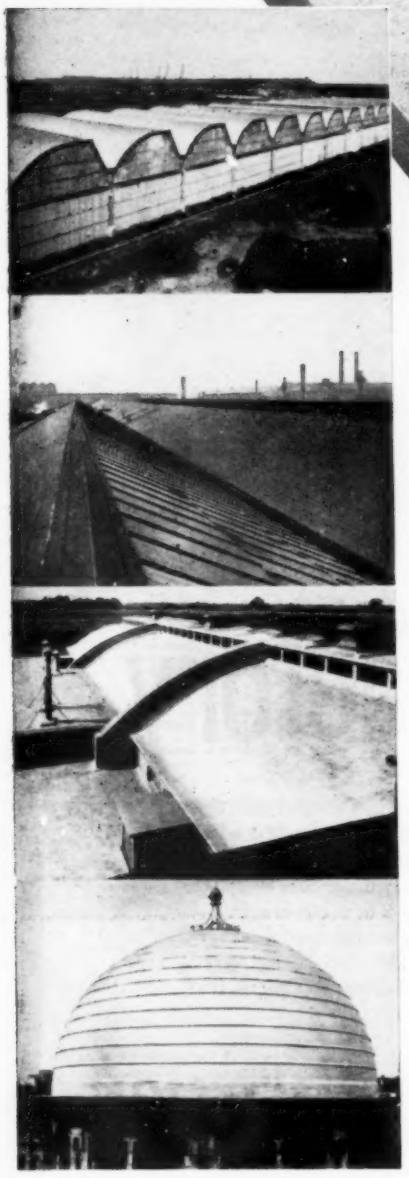
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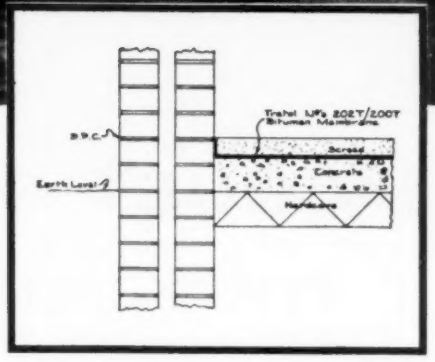
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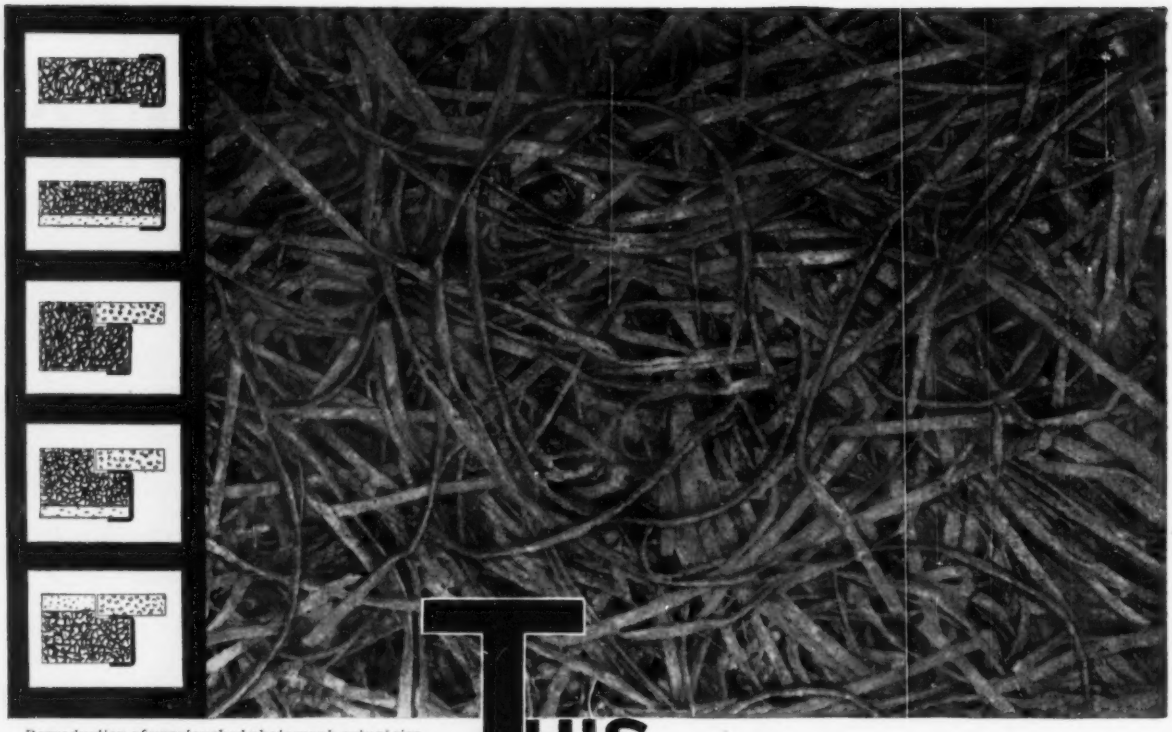
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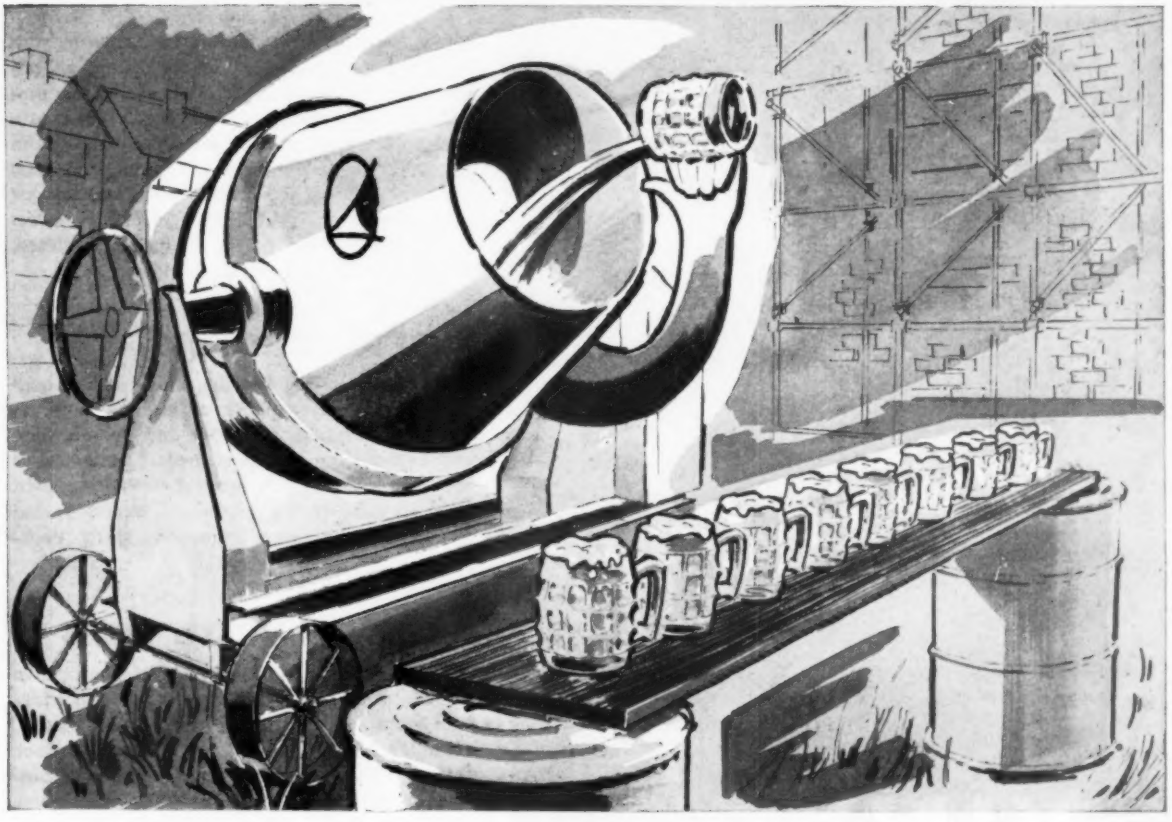
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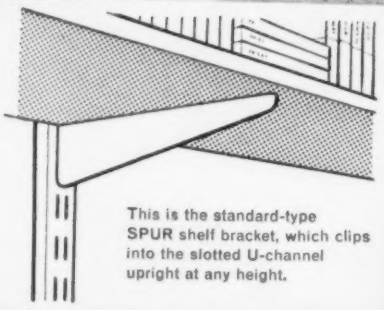
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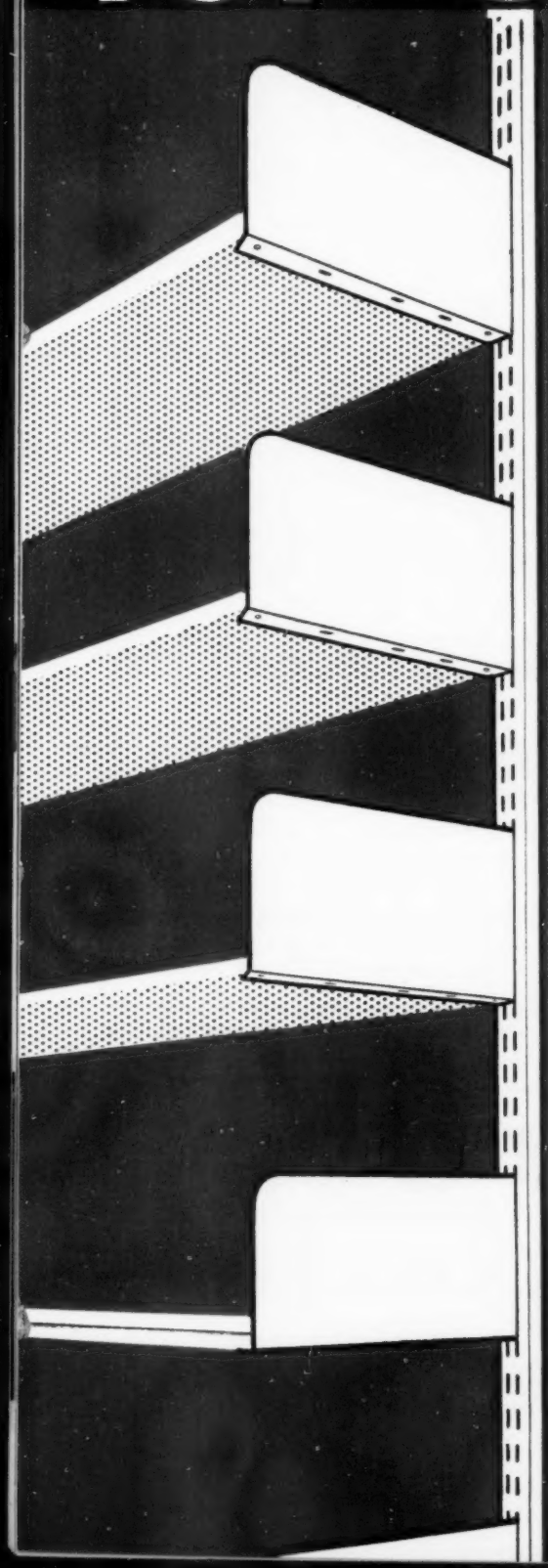
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20 Shelf-ends at 9/8d	£9. 13. 4d
10 Brackets at 3/0d	£1. 10. 0d

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TGA 51 17

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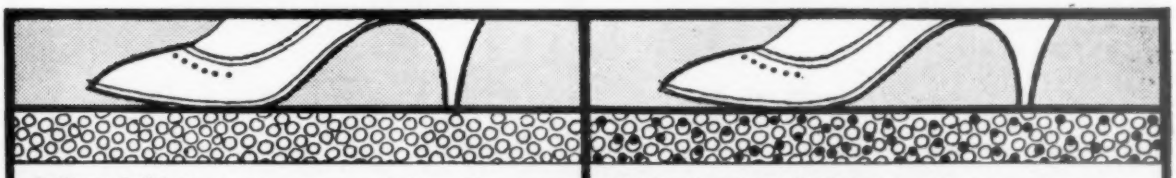
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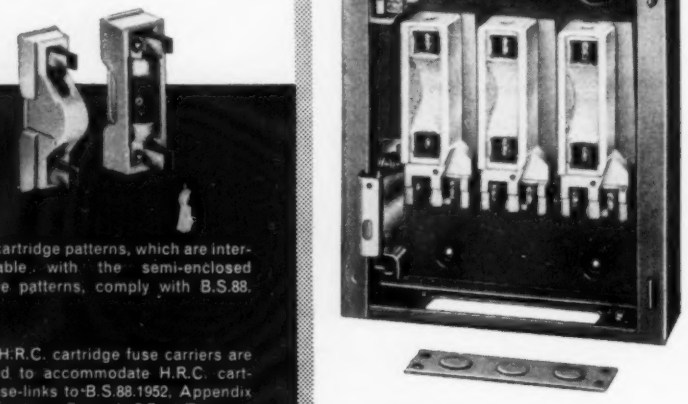
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The hinged covers are detachable in order to facilitate wiring or to preserve finish.

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M.E.M. H.R.C. cartridge fuse carriers are designed to accommodate H.R.C. cartridge fuse-links to B.S.88.1952, Appendix 'J' Dimensions, Form A-Offset Tags.

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All units are arranged for internal fixing. Keyhole slots are provided at top. There are no external lugs.

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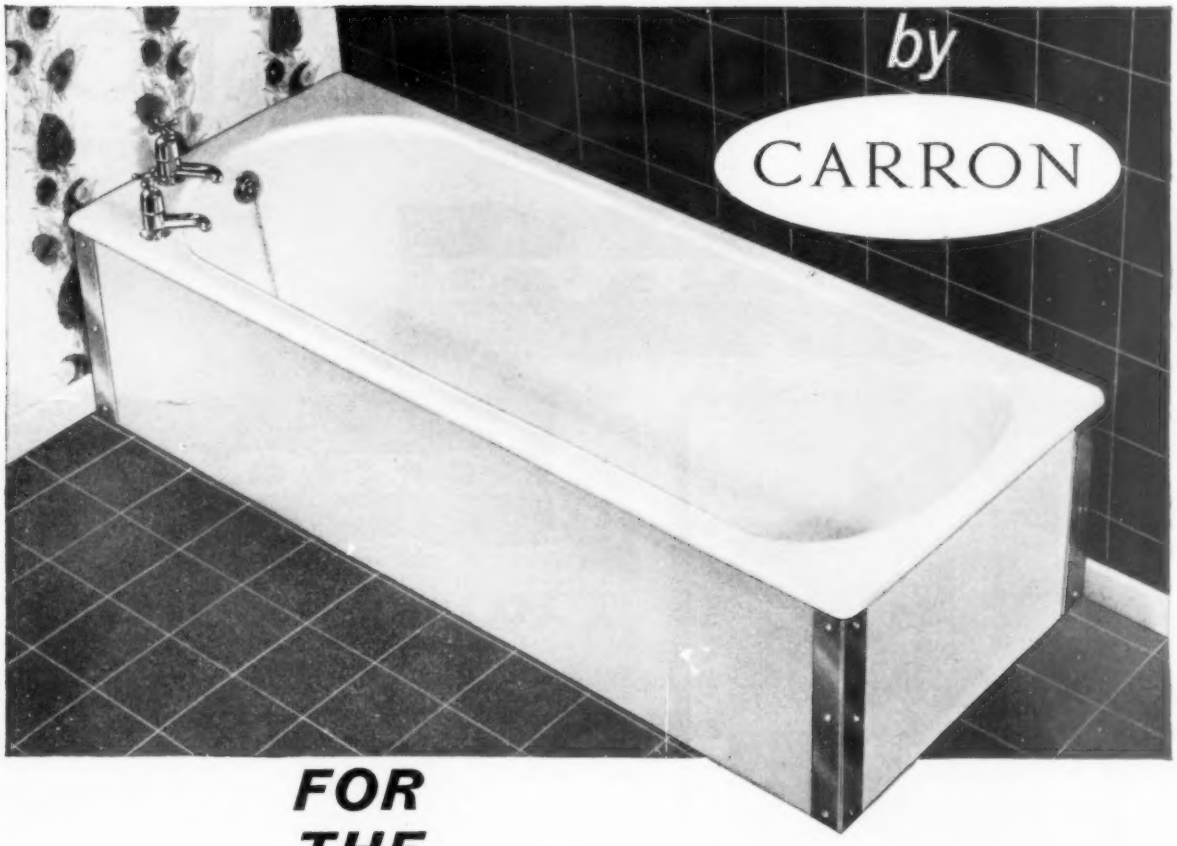
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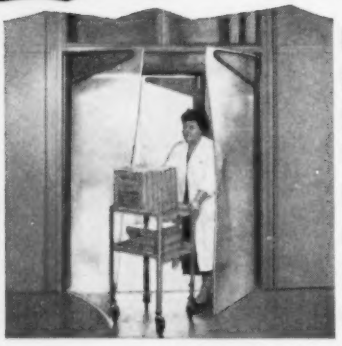
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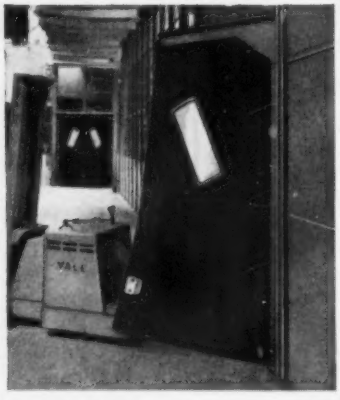
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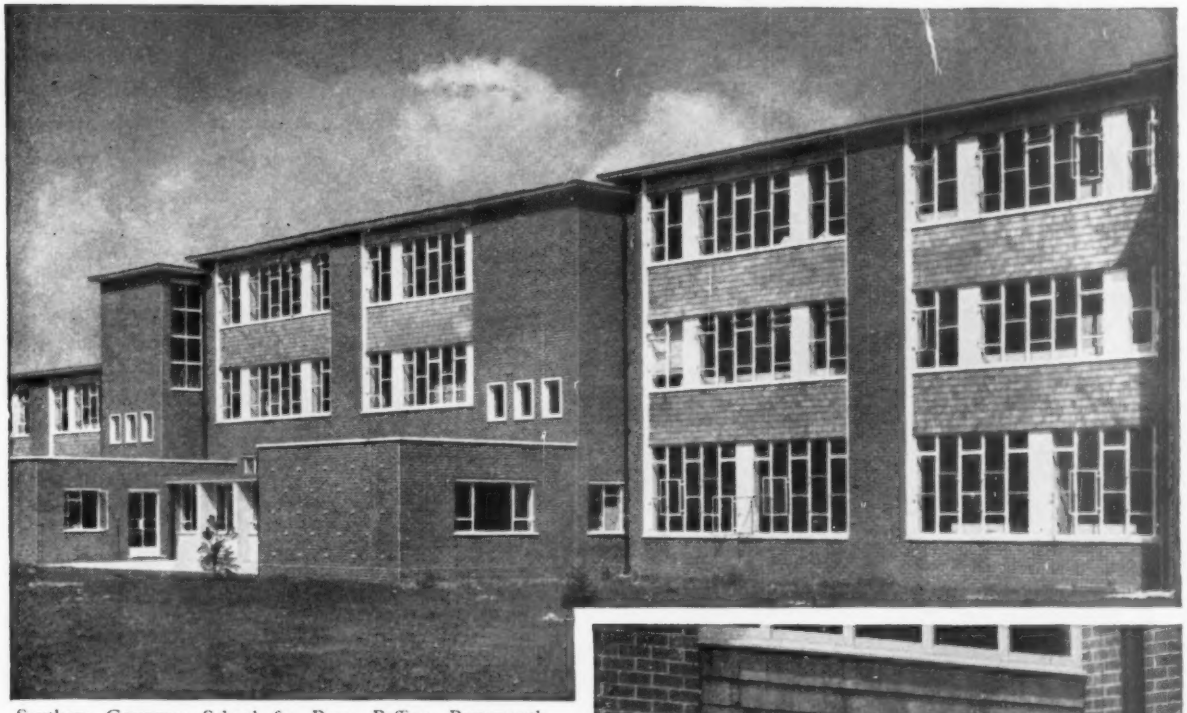
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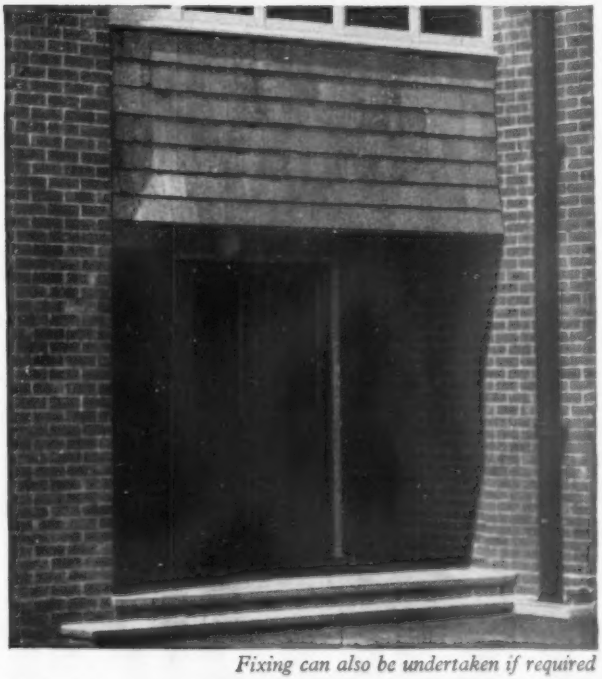
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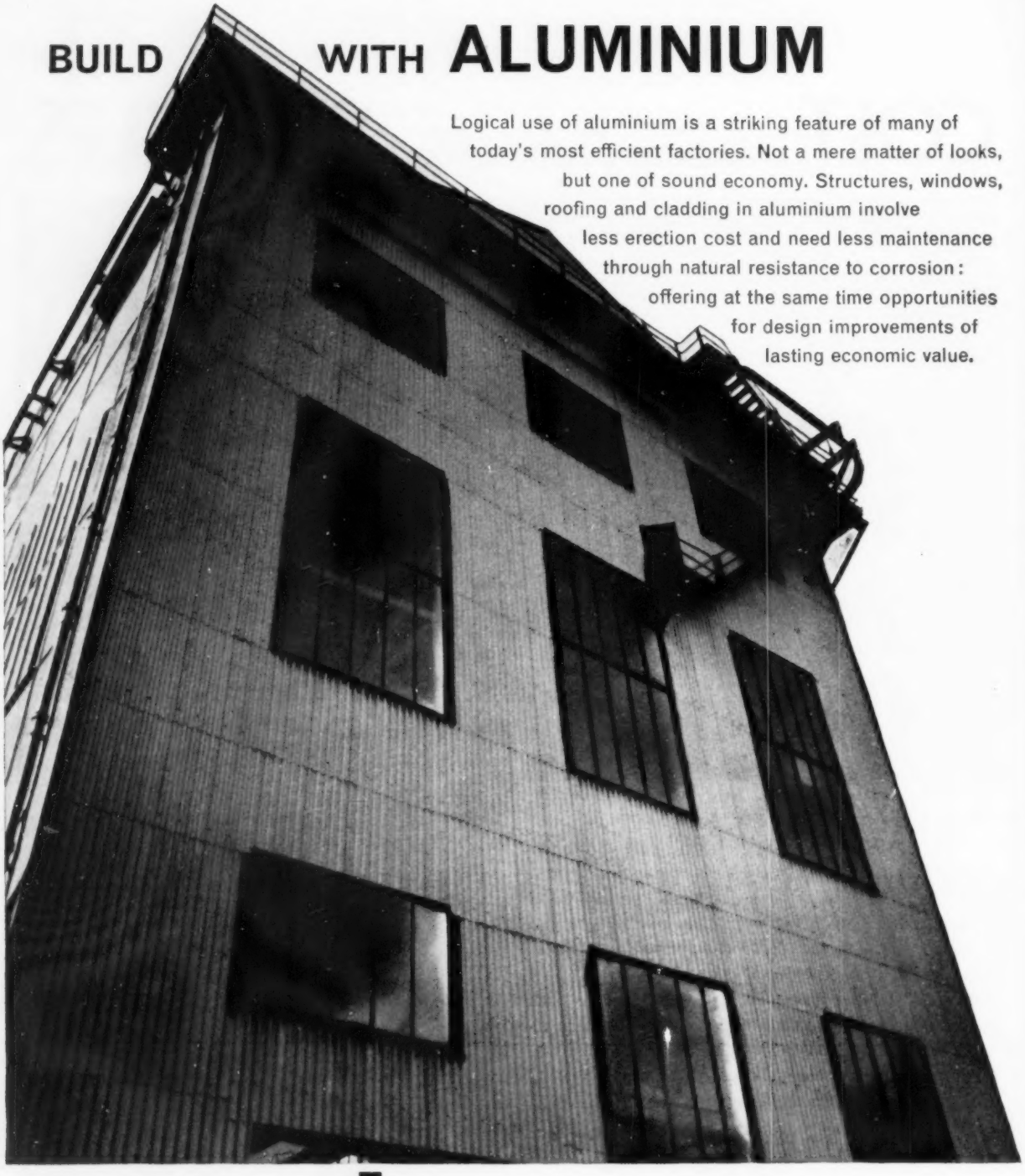
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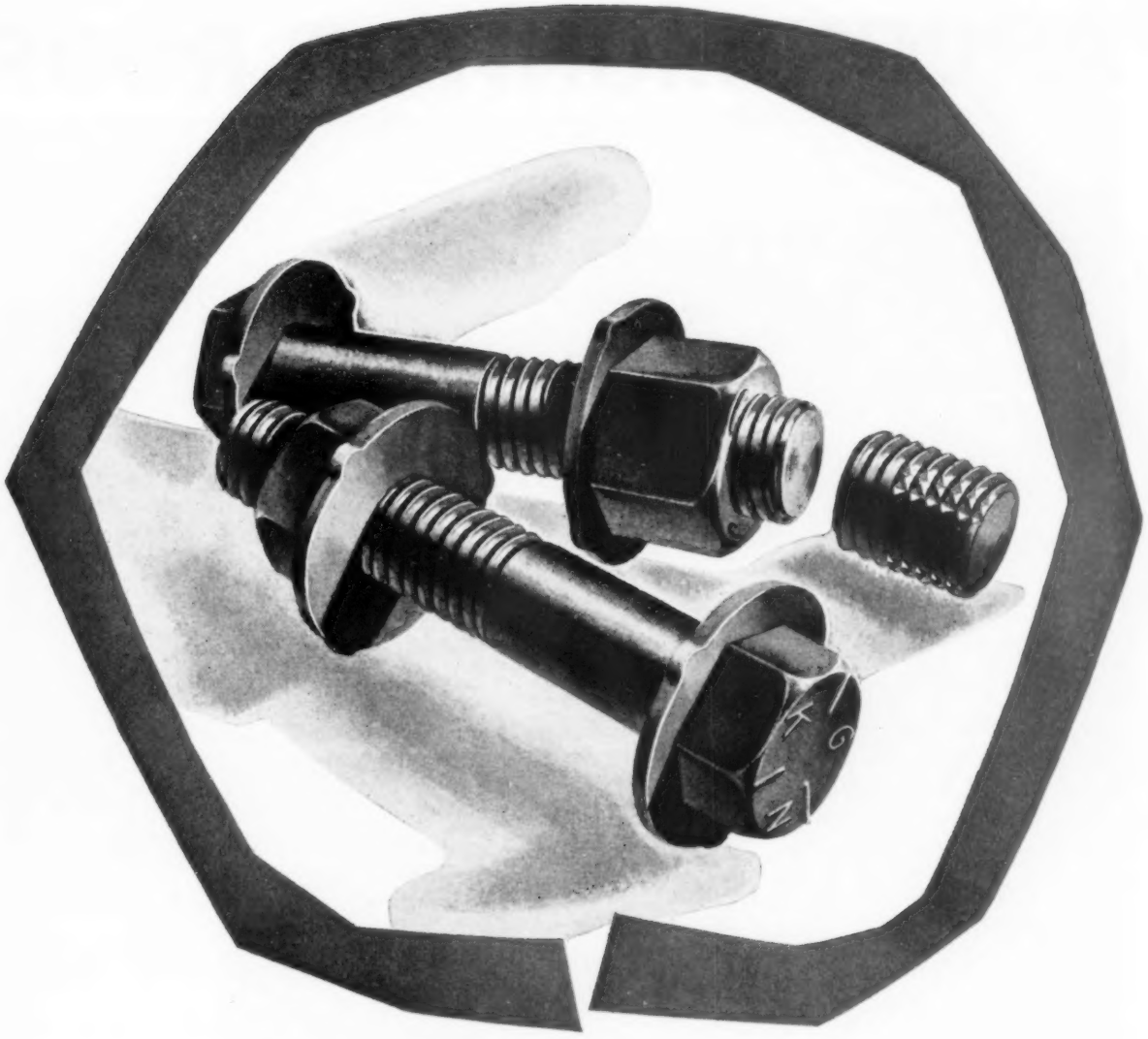
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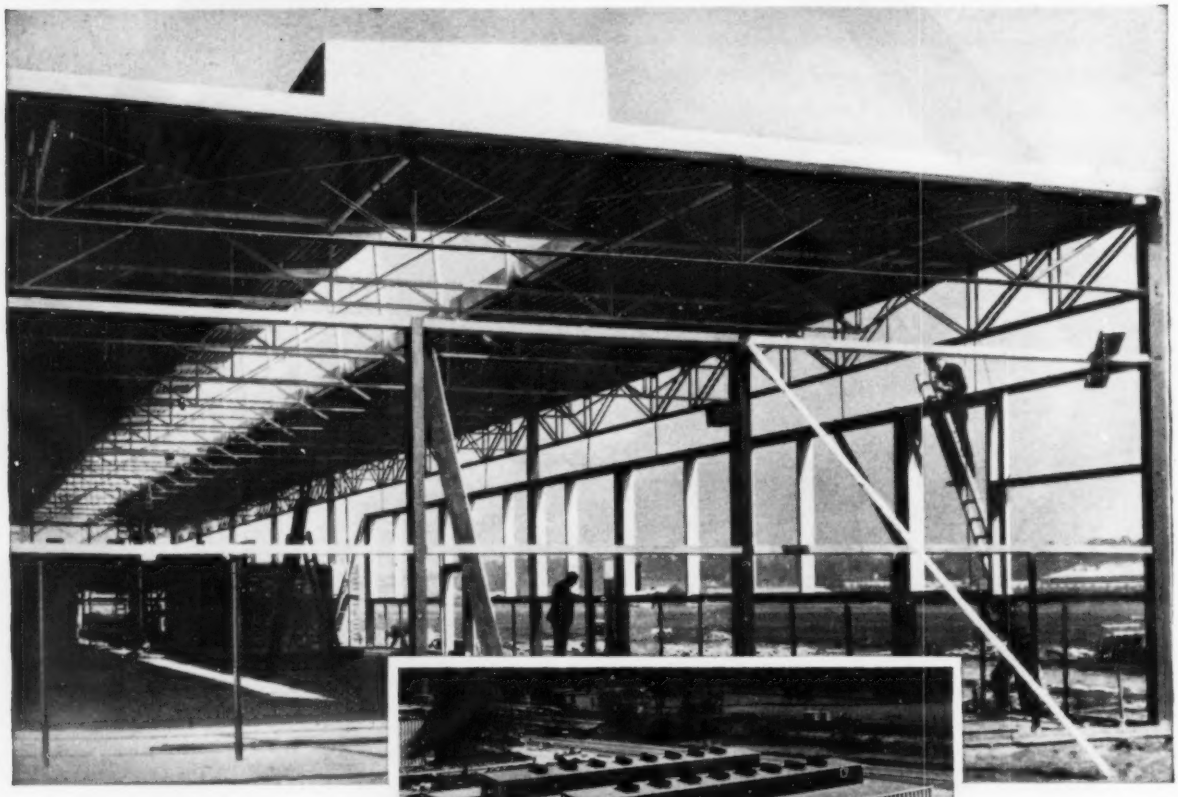
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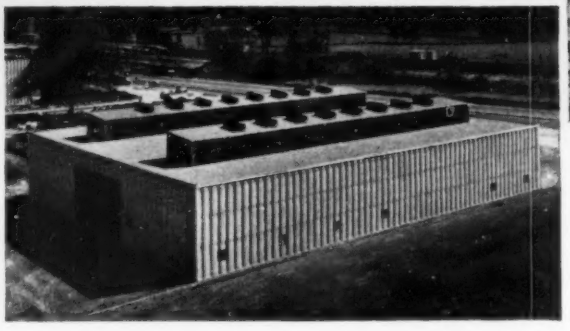
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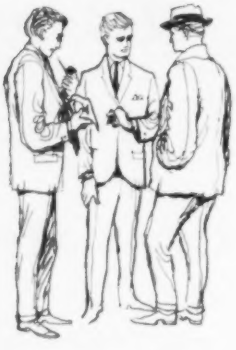
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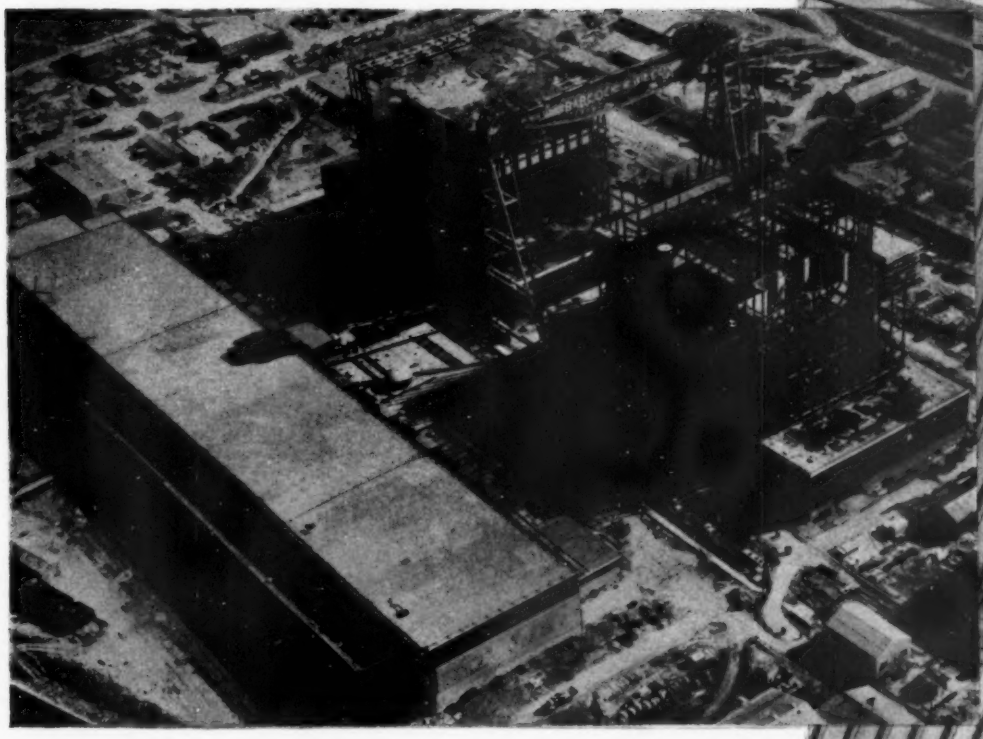
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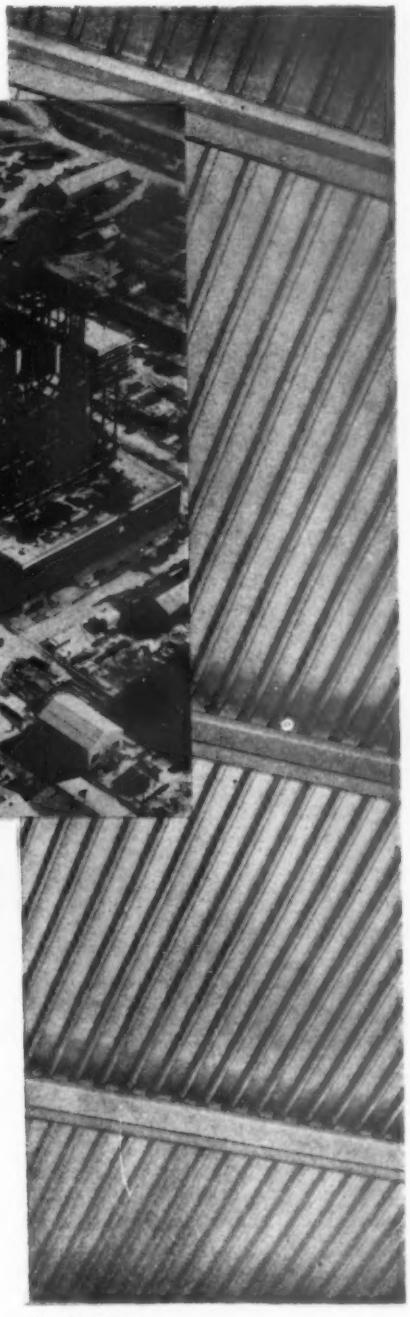
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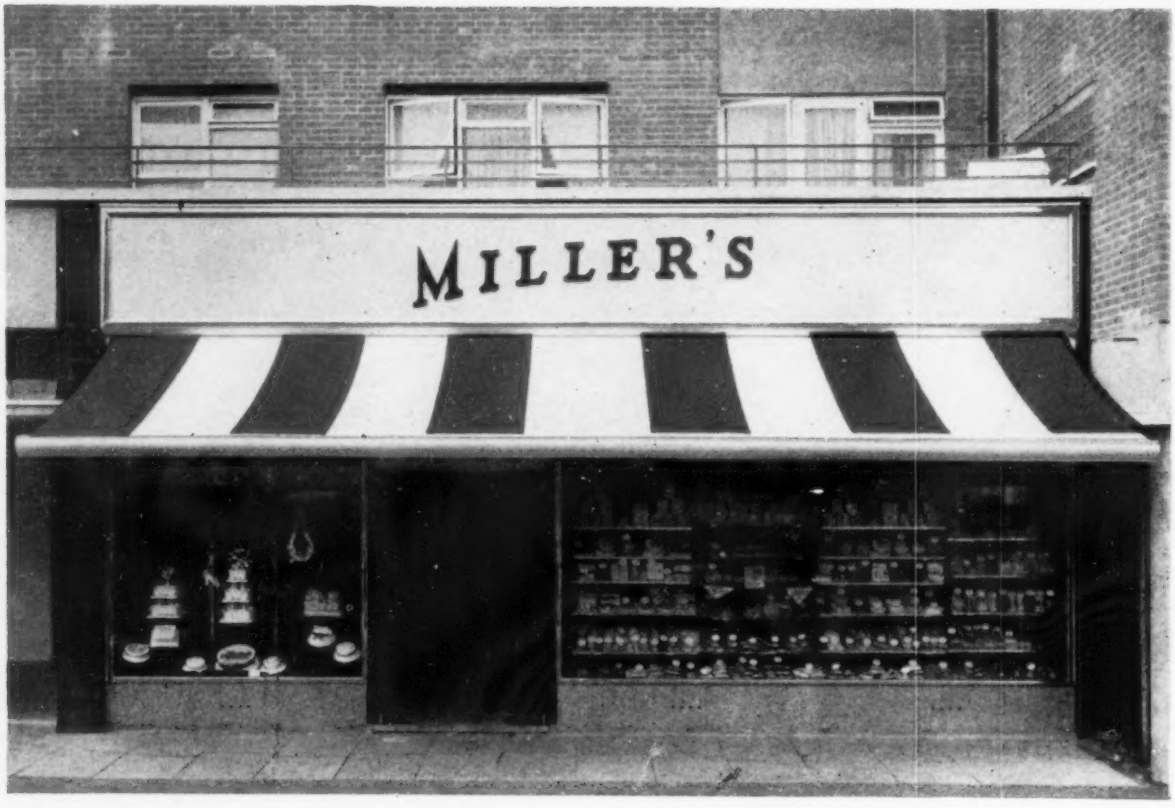


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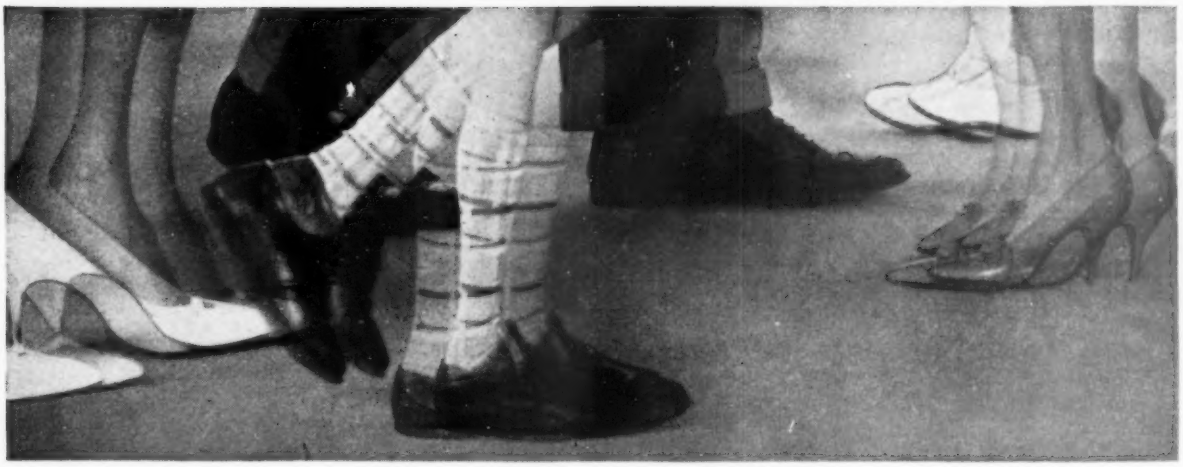
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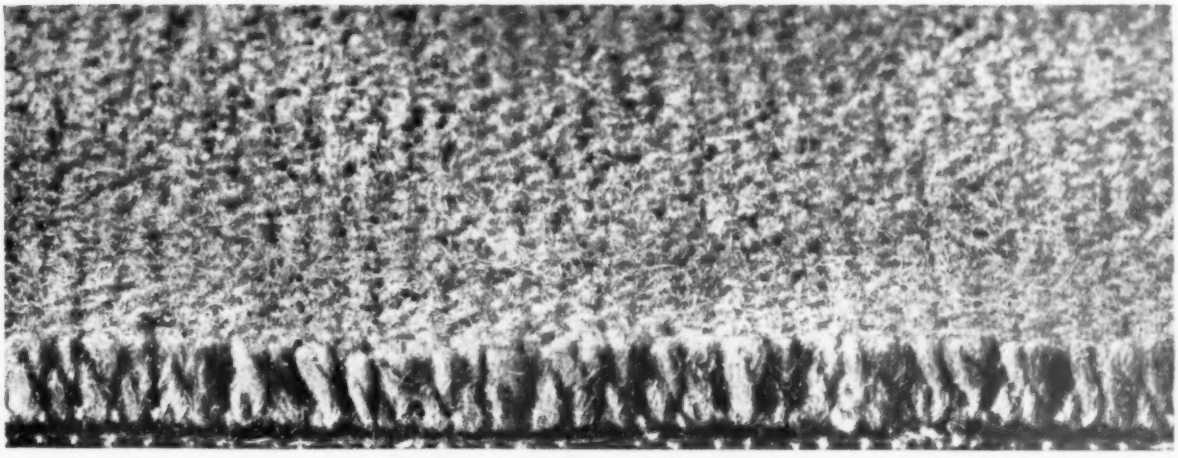
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ACRILAN is the registered trademark for the acrylic fibre supplied by CHEMSTRAND LIMITED. CHEMSTRAND make only the fibre—Britain's finest Carpet Manufacturers do the rest.



March 3rd, 1961. Acrilan 15 carpet in the Empire Hall ready to be walked over by 2,500,000 feet.

ACRILAN 15



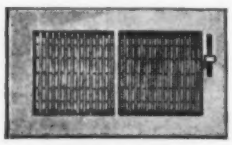
NO PIPES, NO RADIATORS IN THIS BAXI-OIL HOUSE

WARM AIR CENTRAL HEATING SYSTEM

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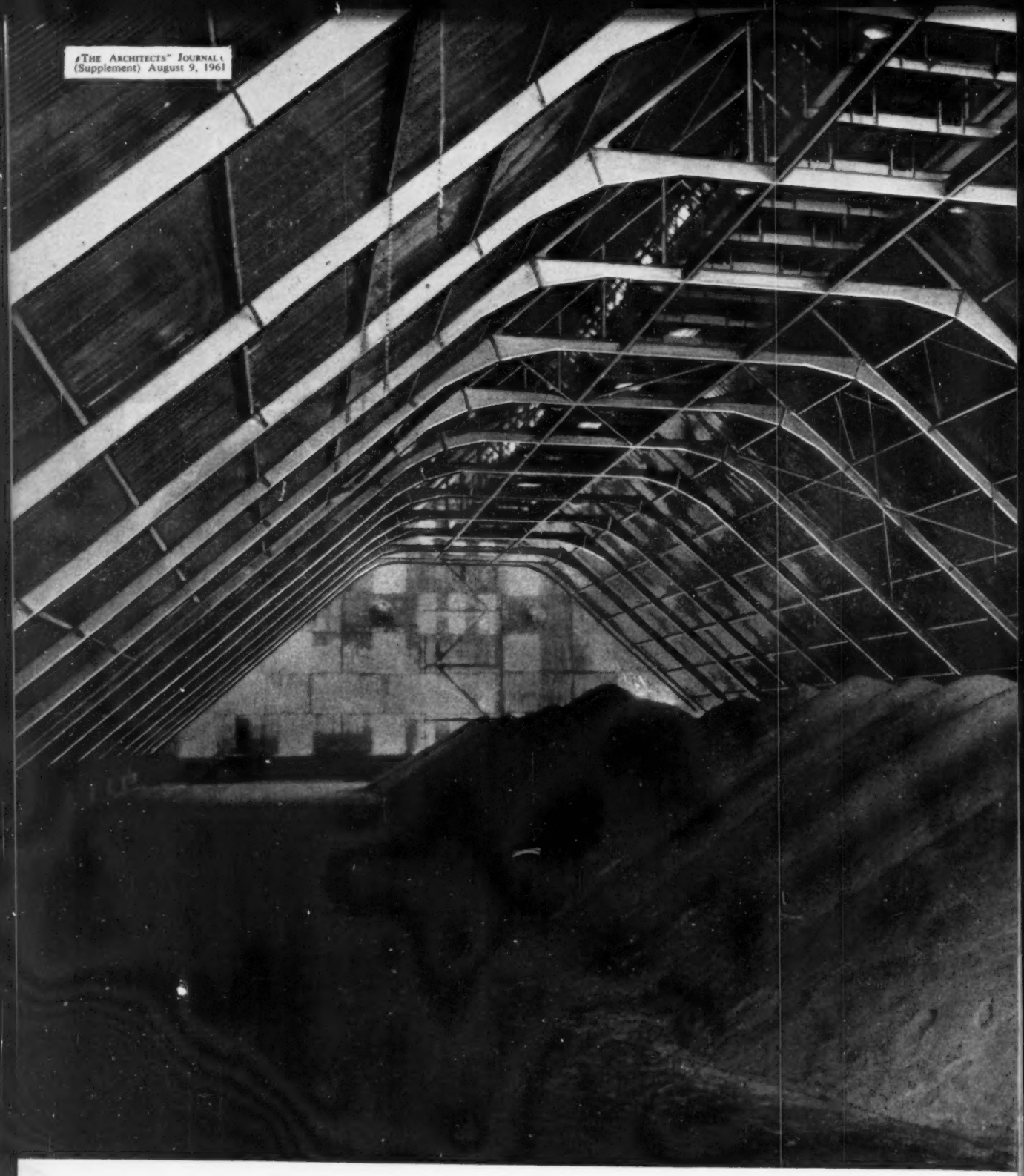
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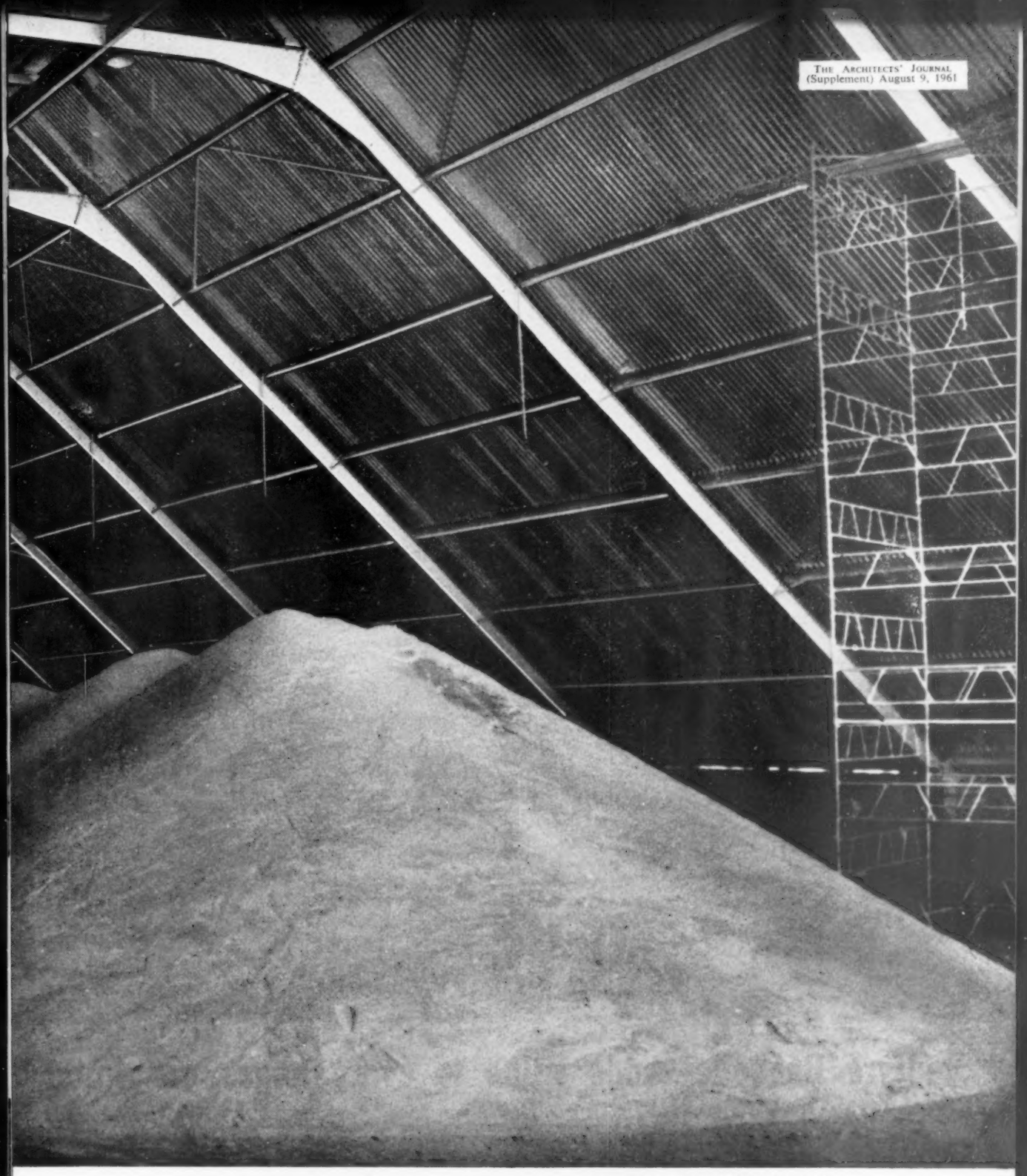
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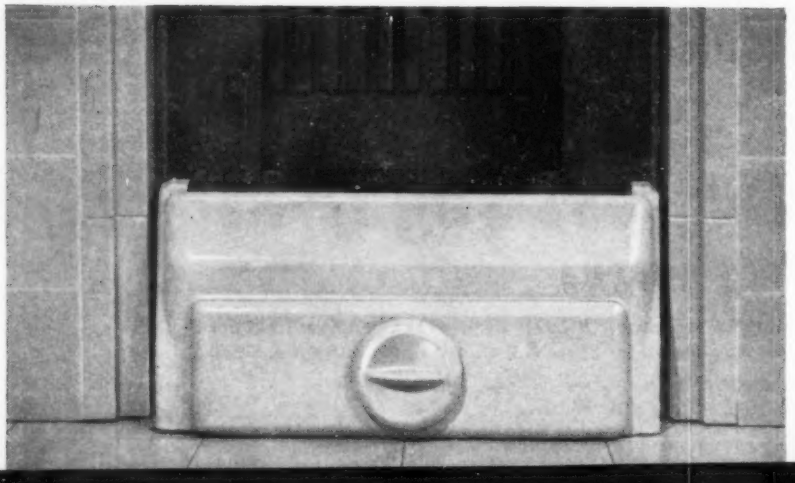
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THE ARCHITECTS' JOURNAL
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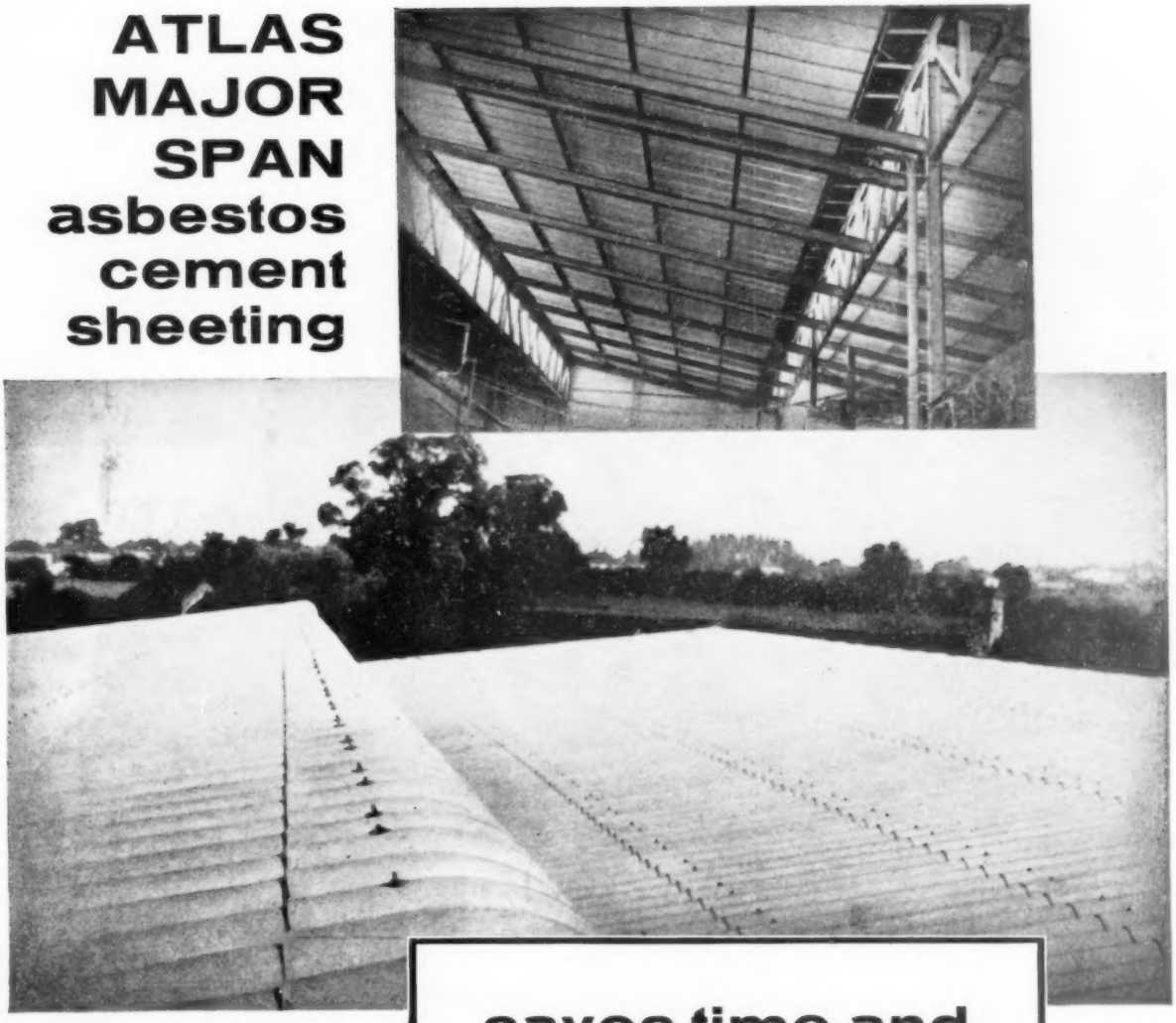
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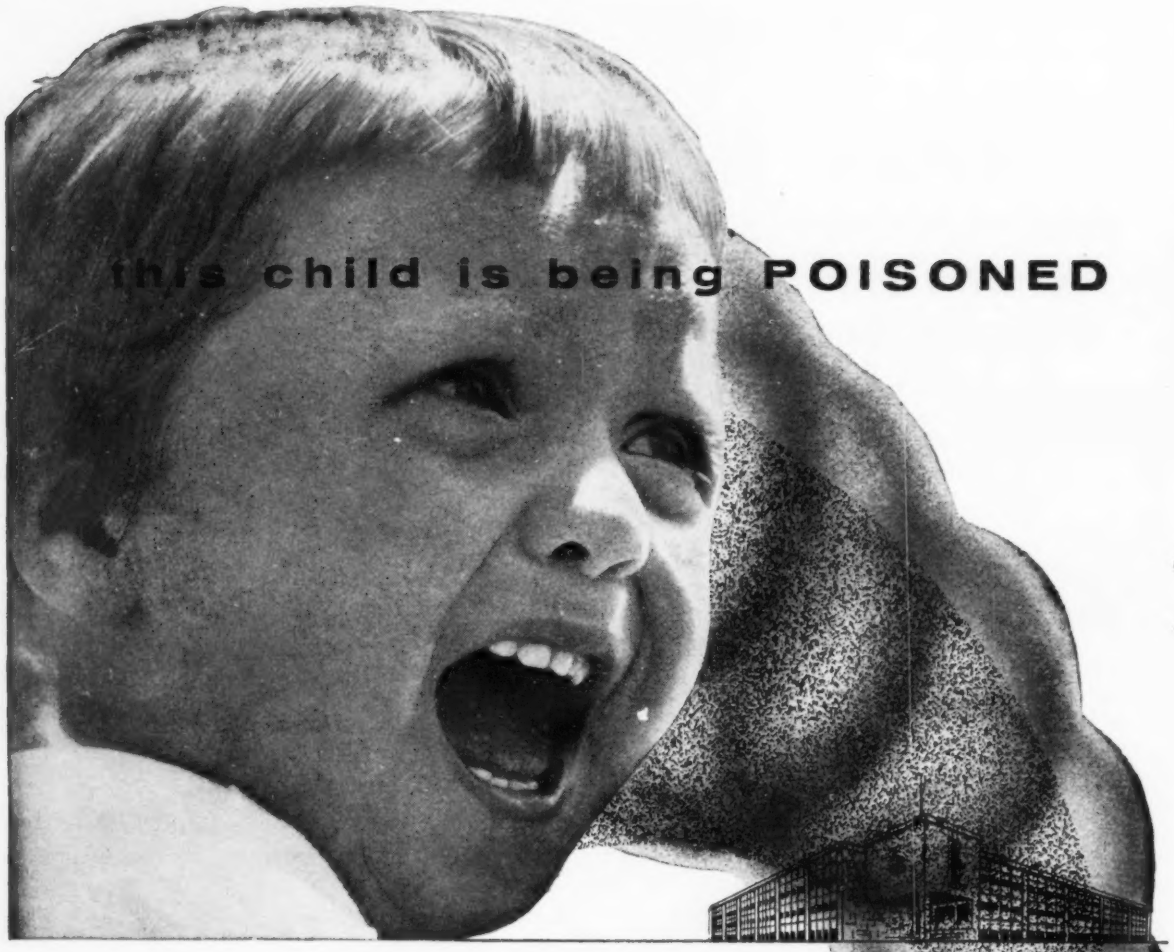
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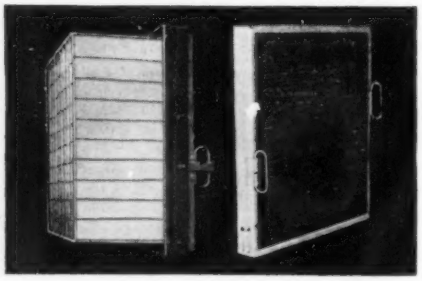
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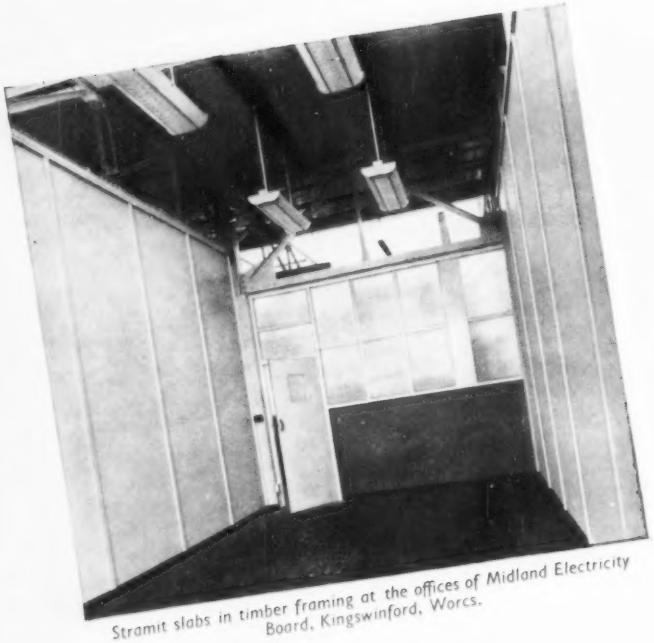
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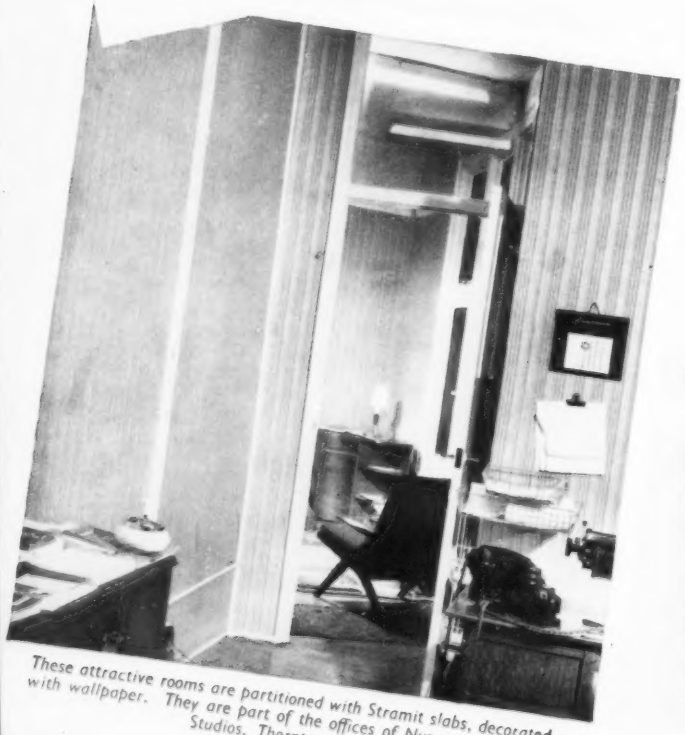
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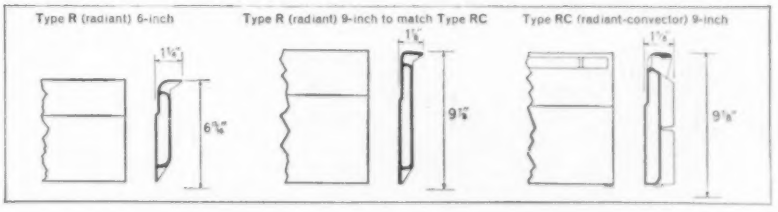


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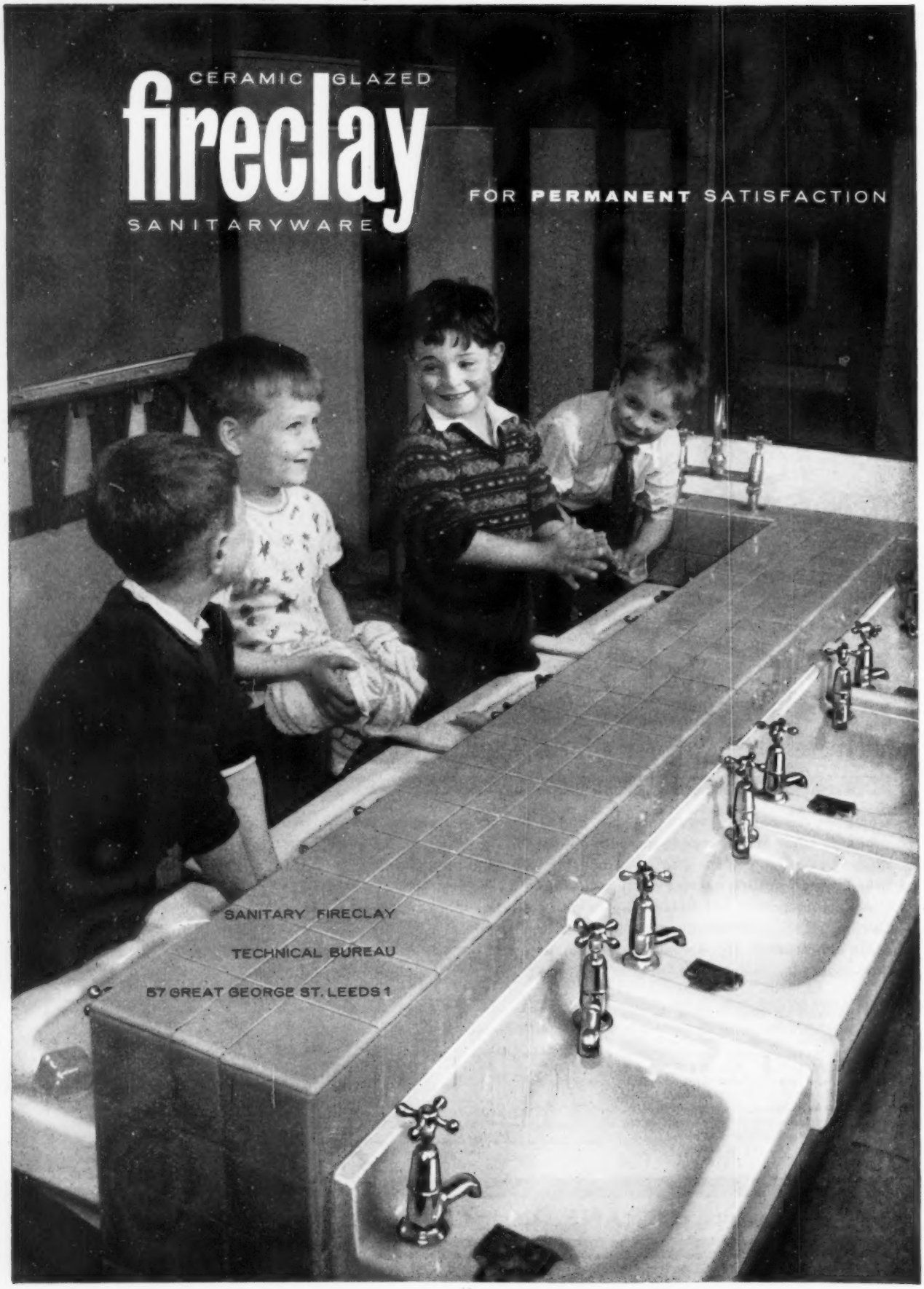
3 types of Crane Skirting Heating *Type RC 9-inch is particularly suitable for installing beneath picture-windows and similar features, using elsewhere Type R 9-inch to match. Type R 6-inch meets smaller heat requirements. Panels are in 2-ft and 1-ft lengths and are made in cast iron for resistance to damage and corrosion.* ***Decoration;*** *this can be done after installation to suit any colour scheme*



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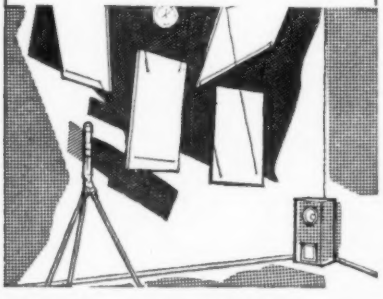
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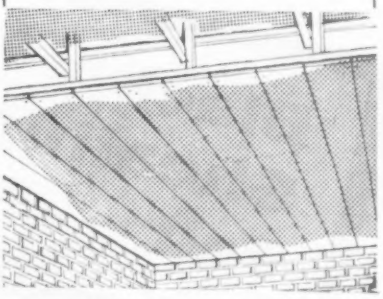
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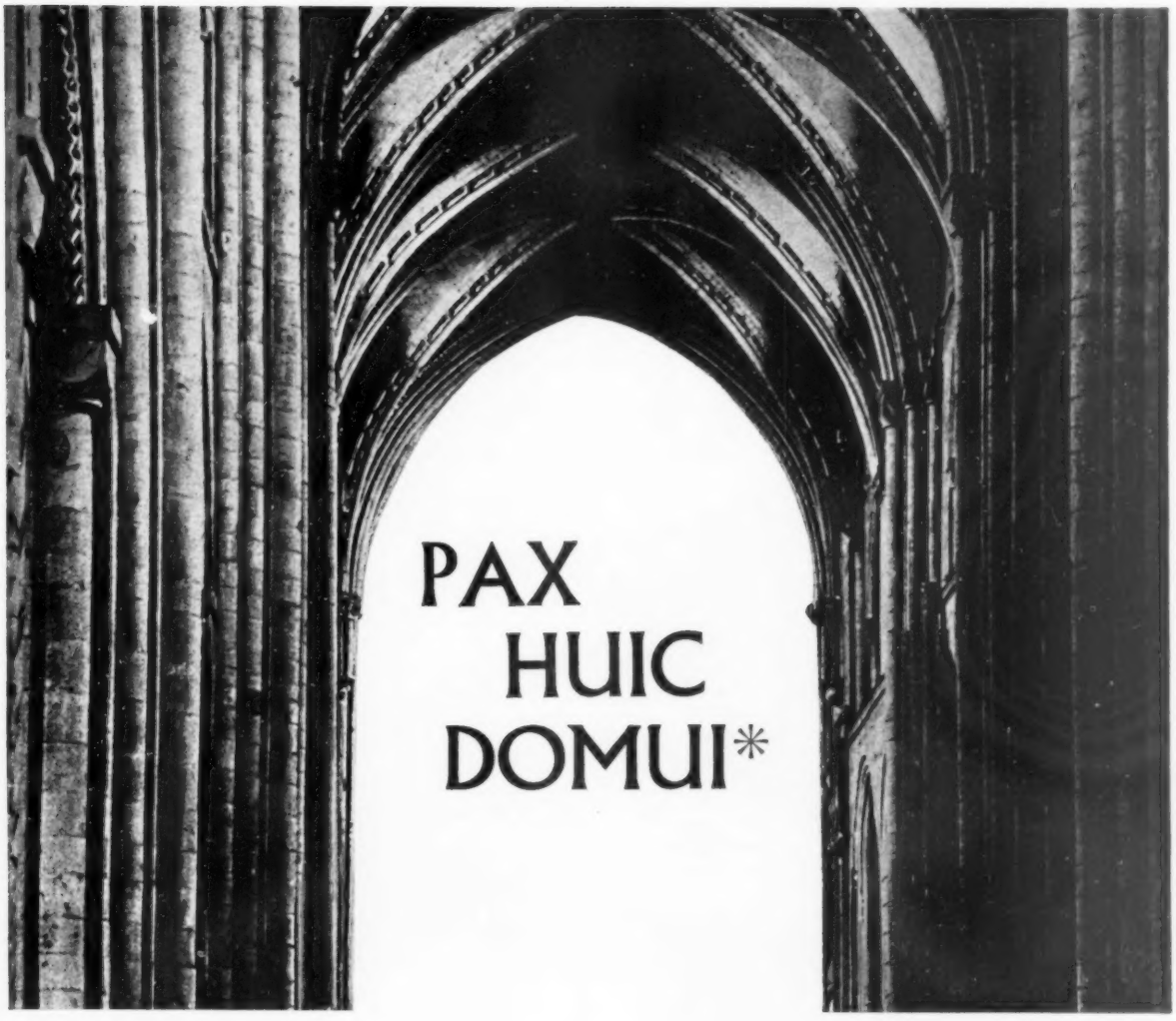




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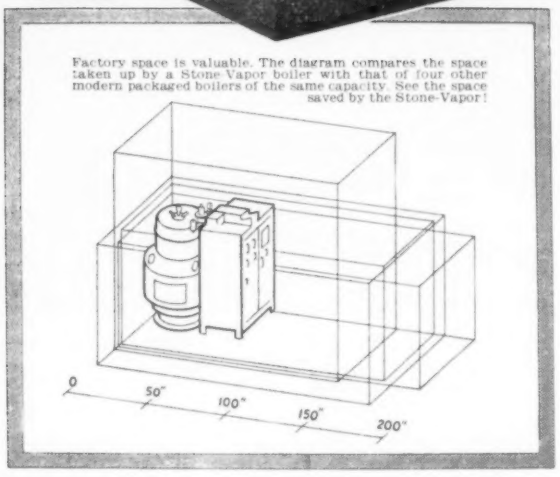
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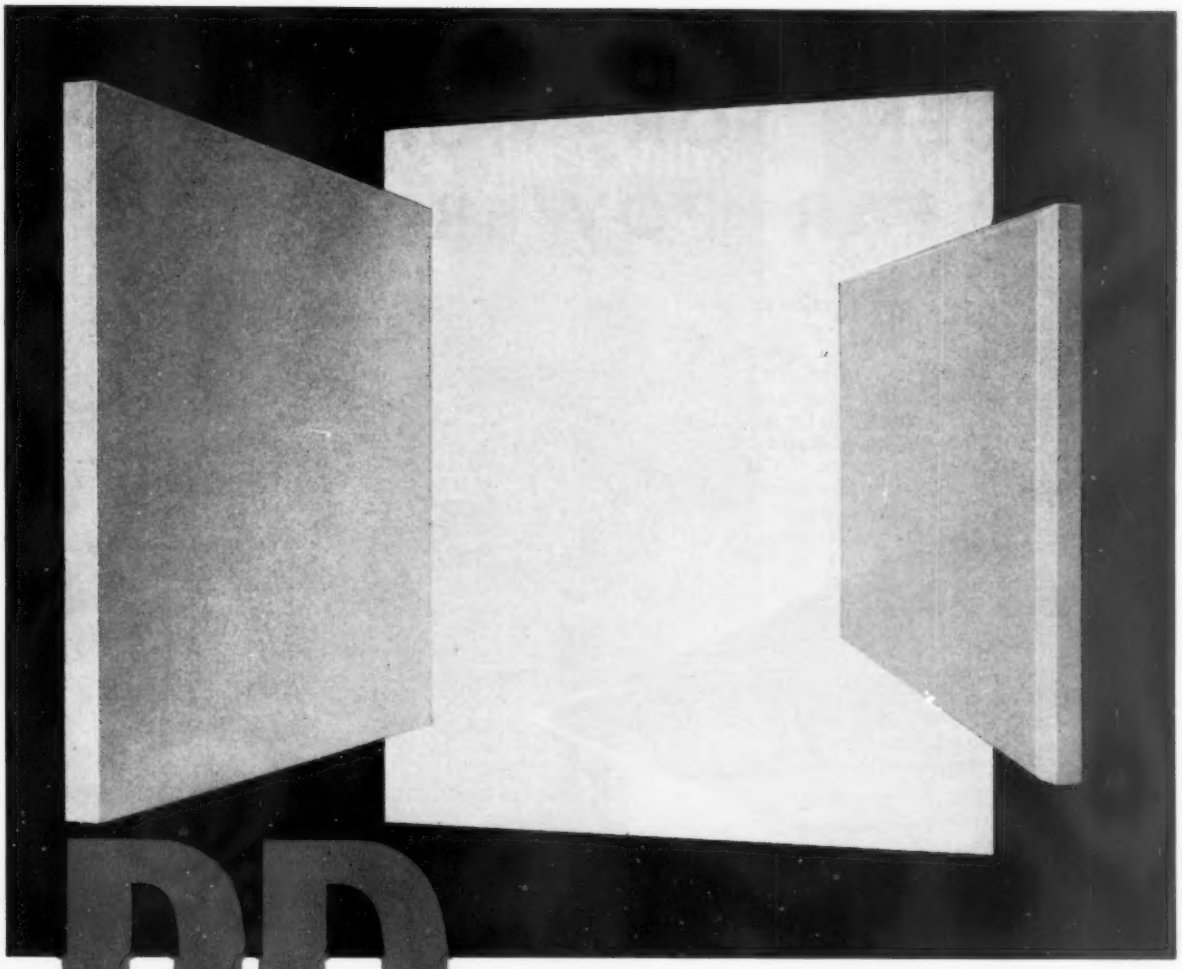


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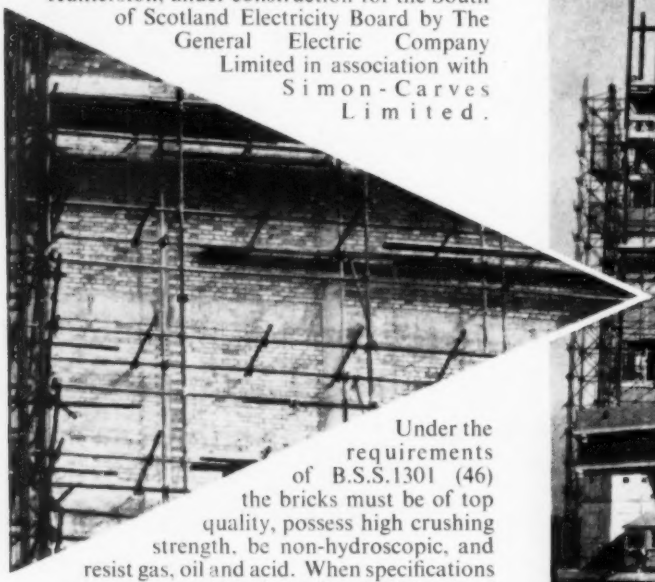
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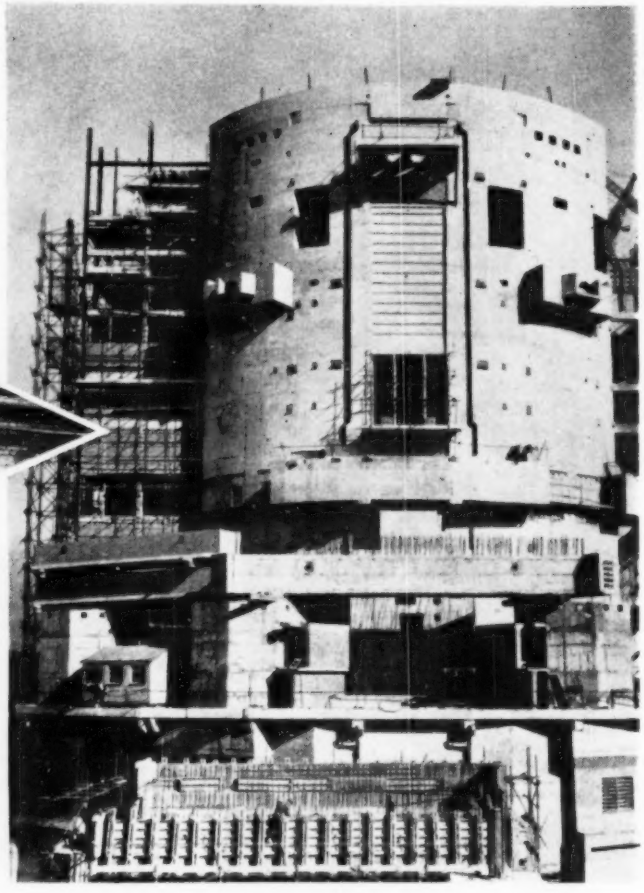
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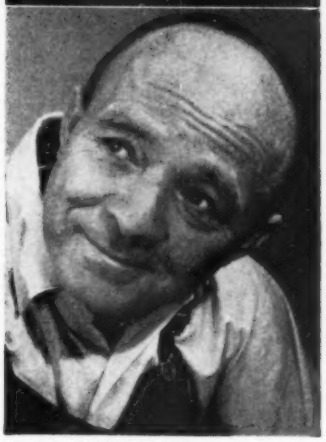
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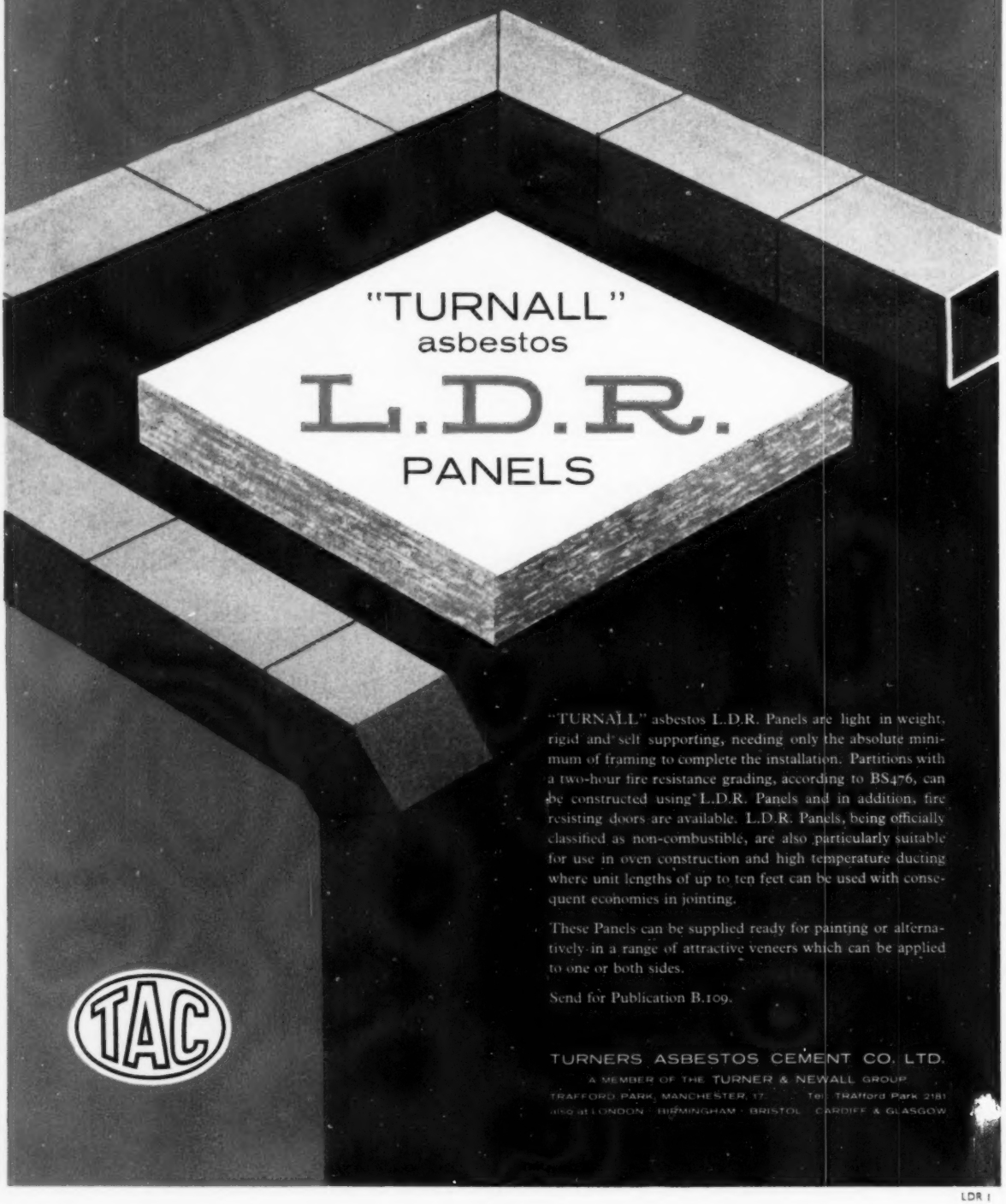
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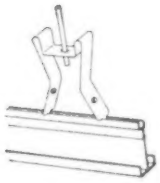
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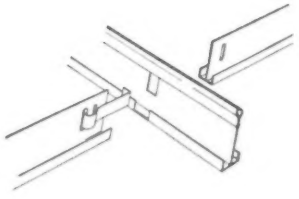
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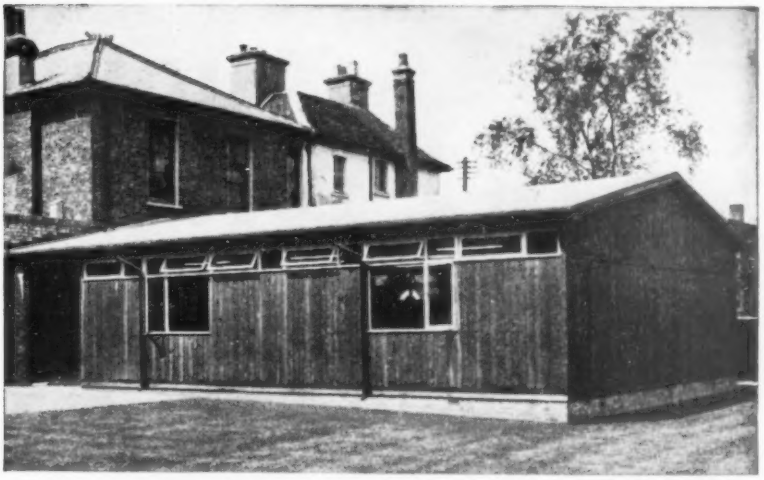
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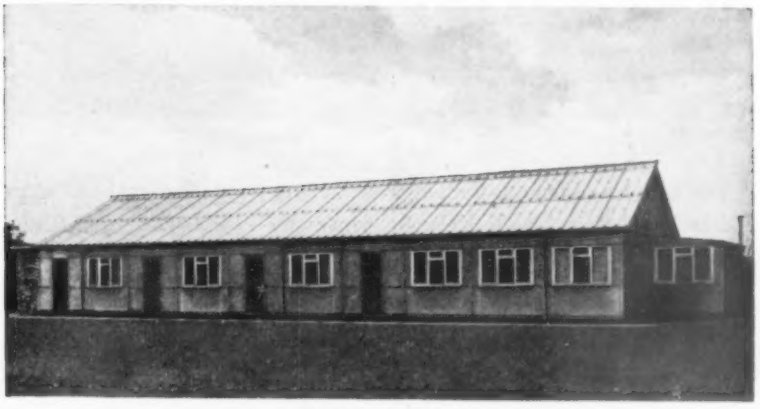
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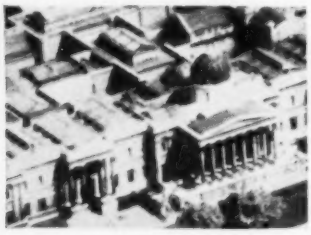
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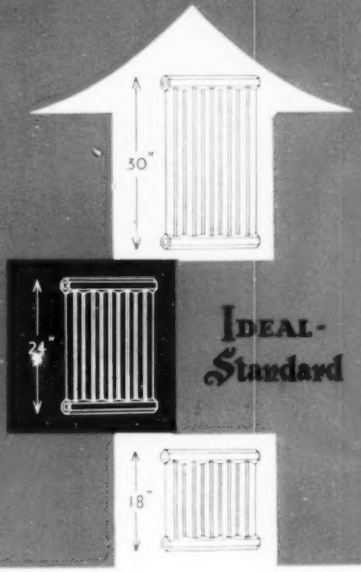
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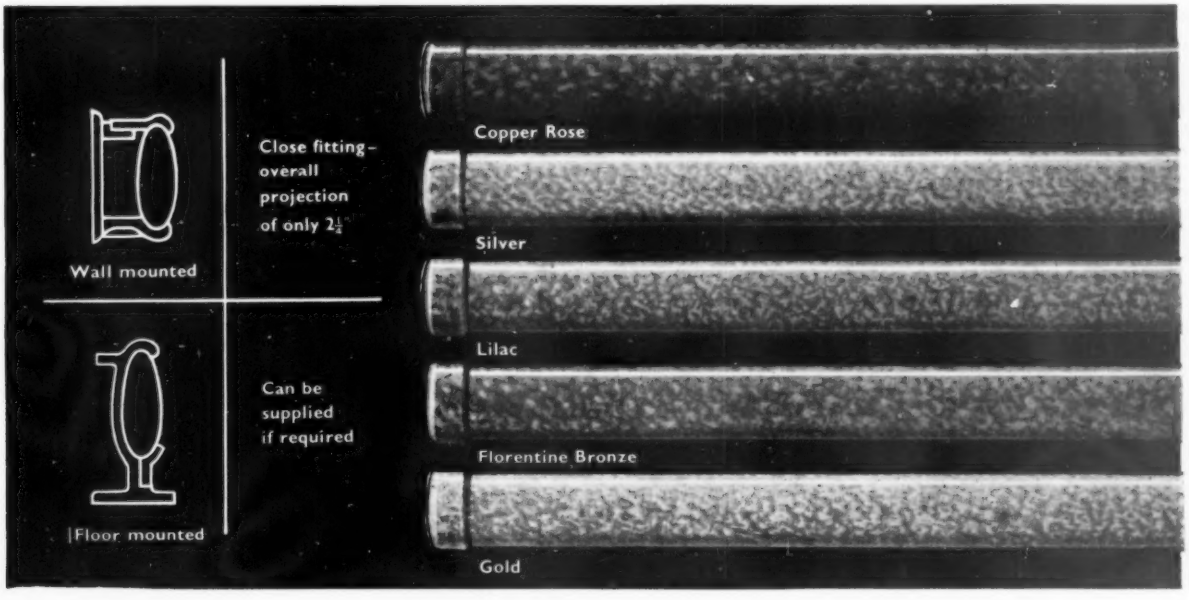
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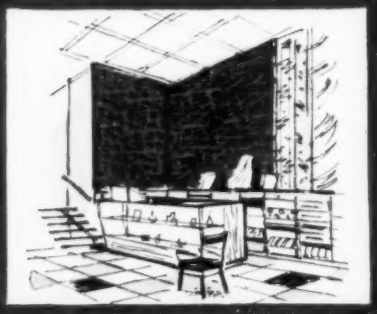
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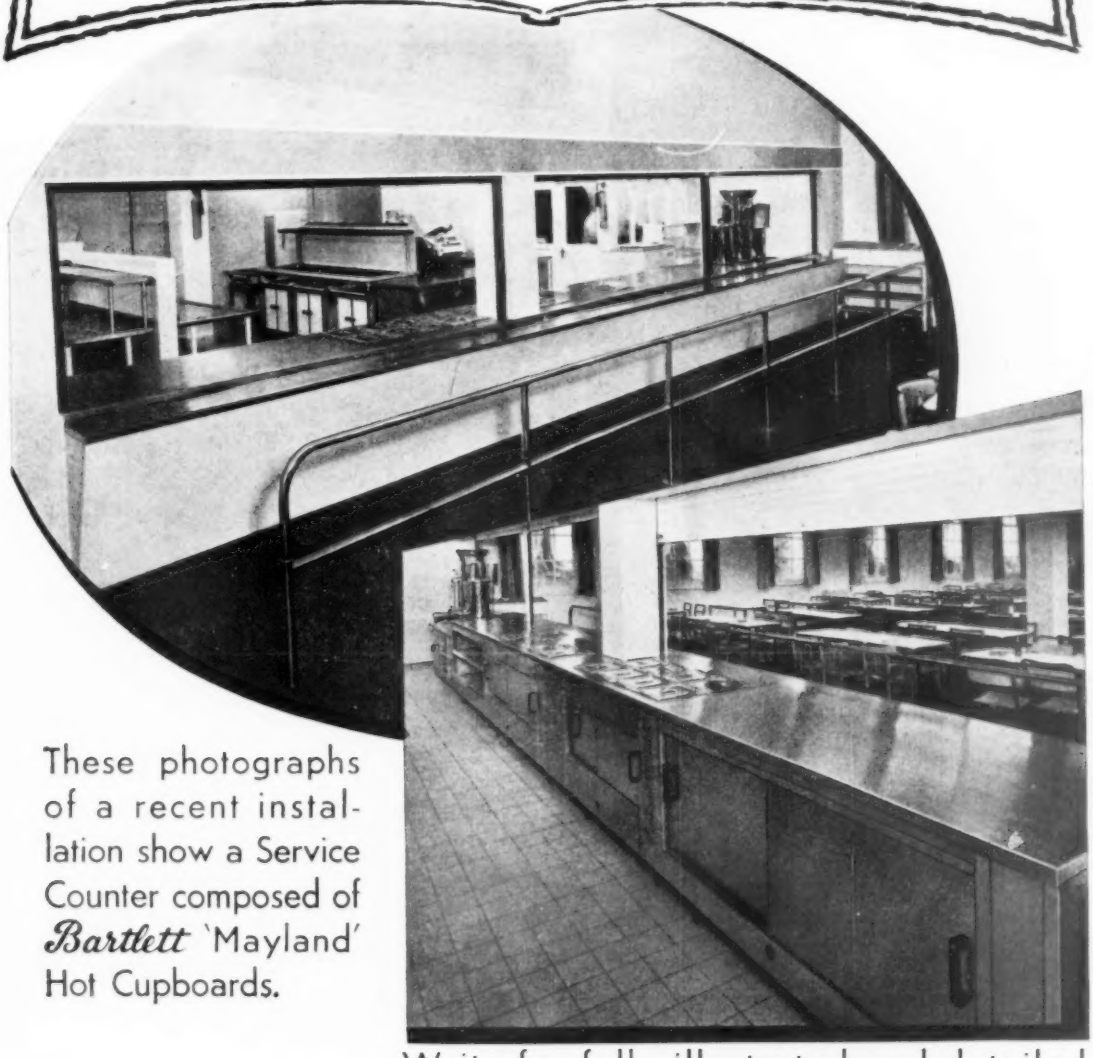
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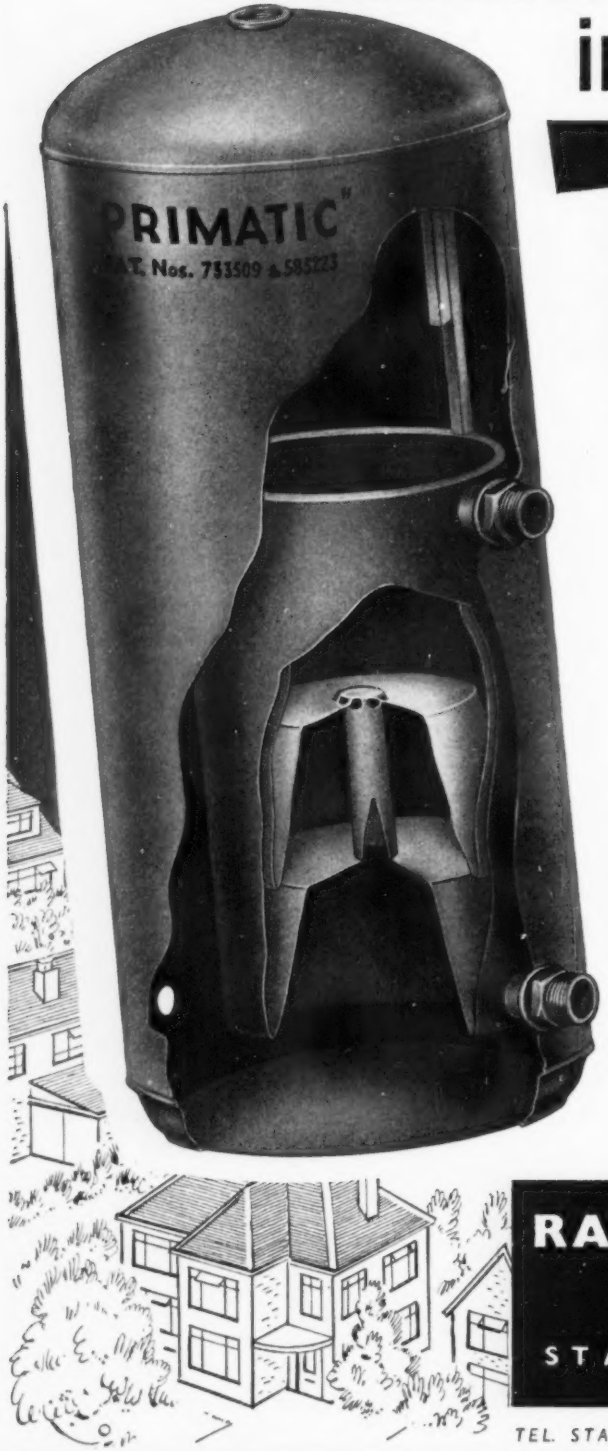
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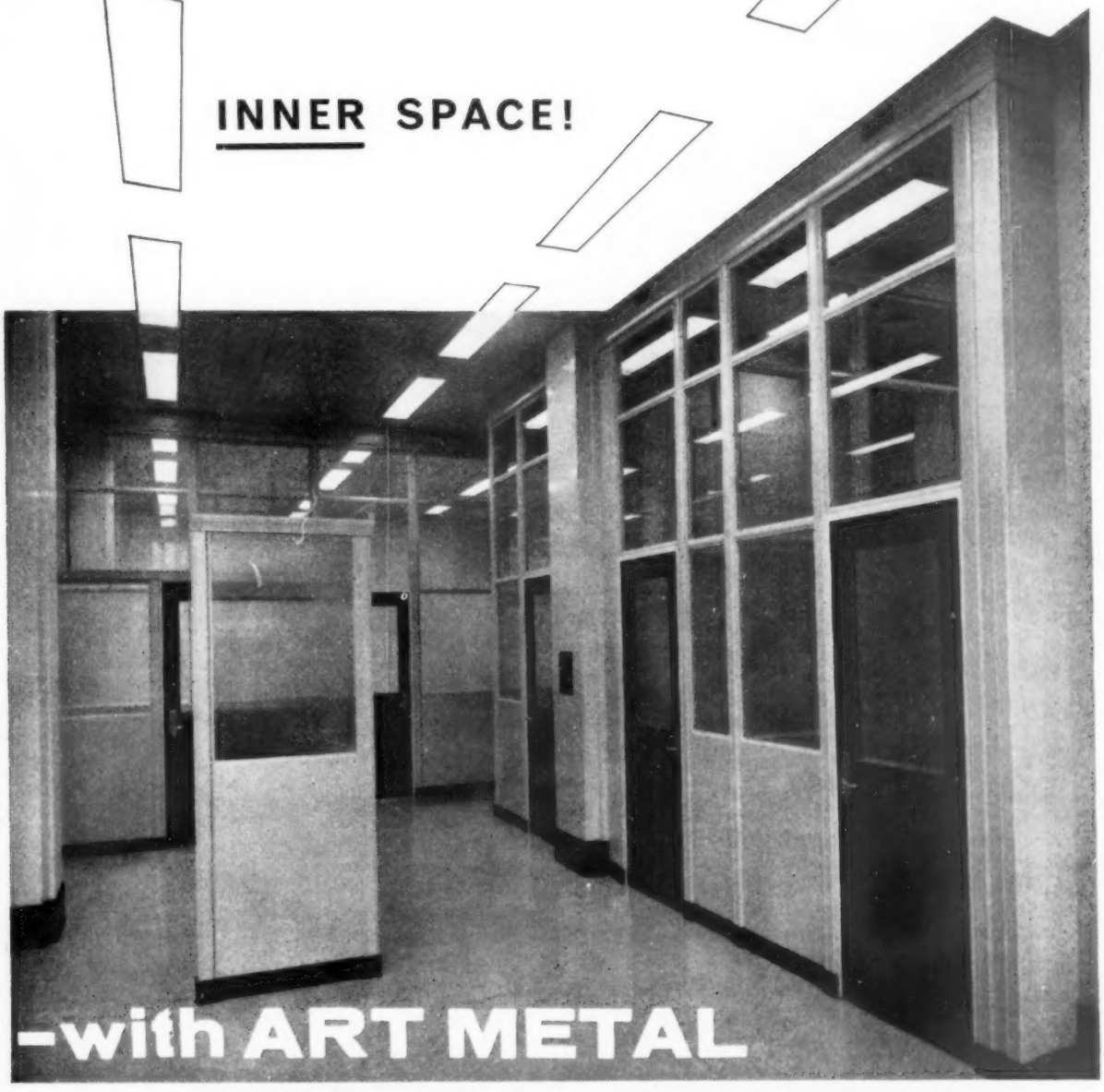
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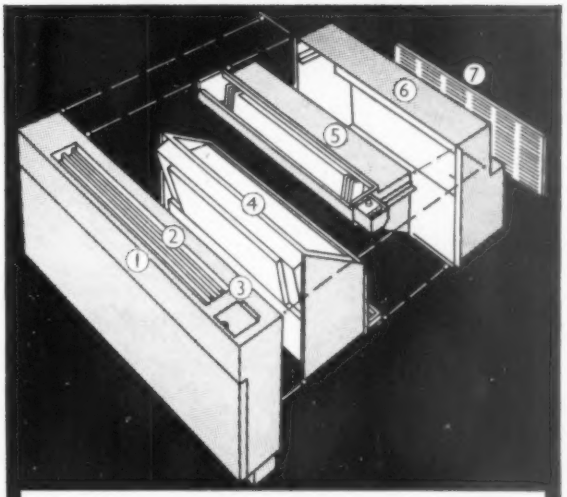
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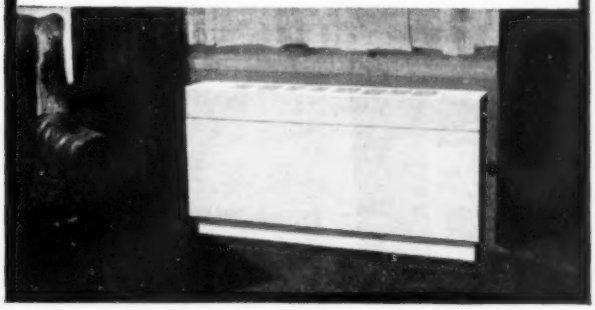
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(6) Wall Cabinet

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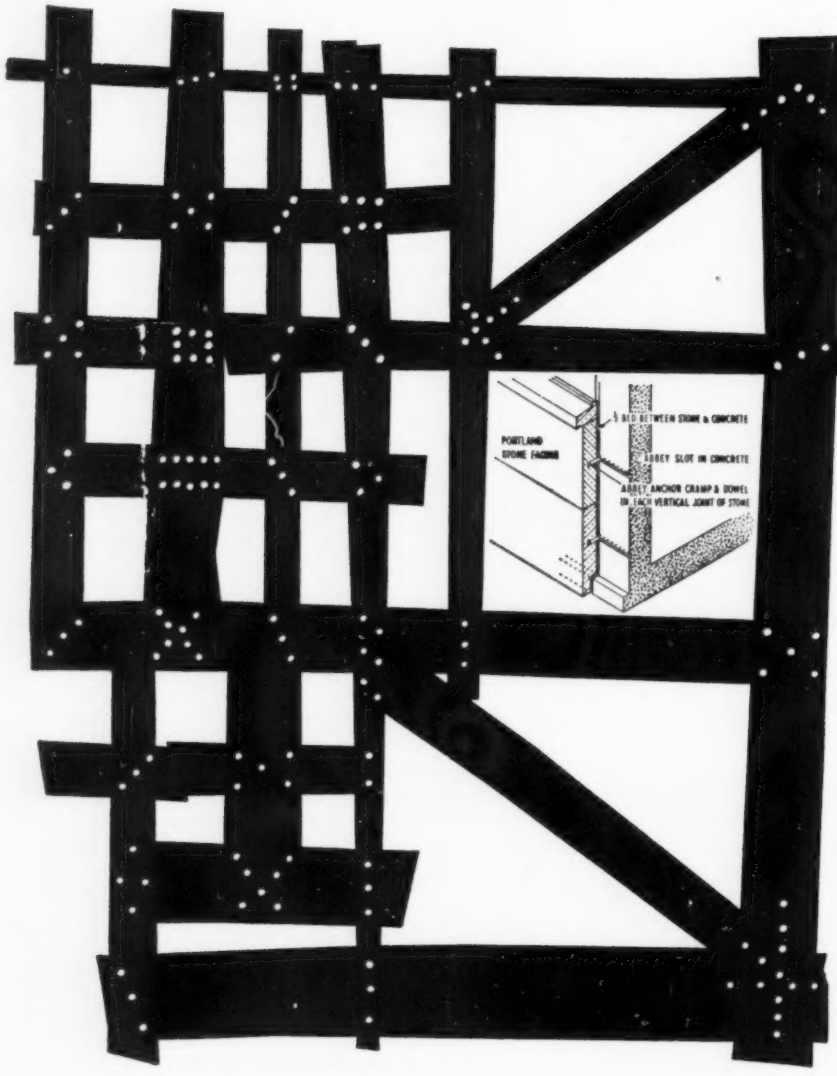
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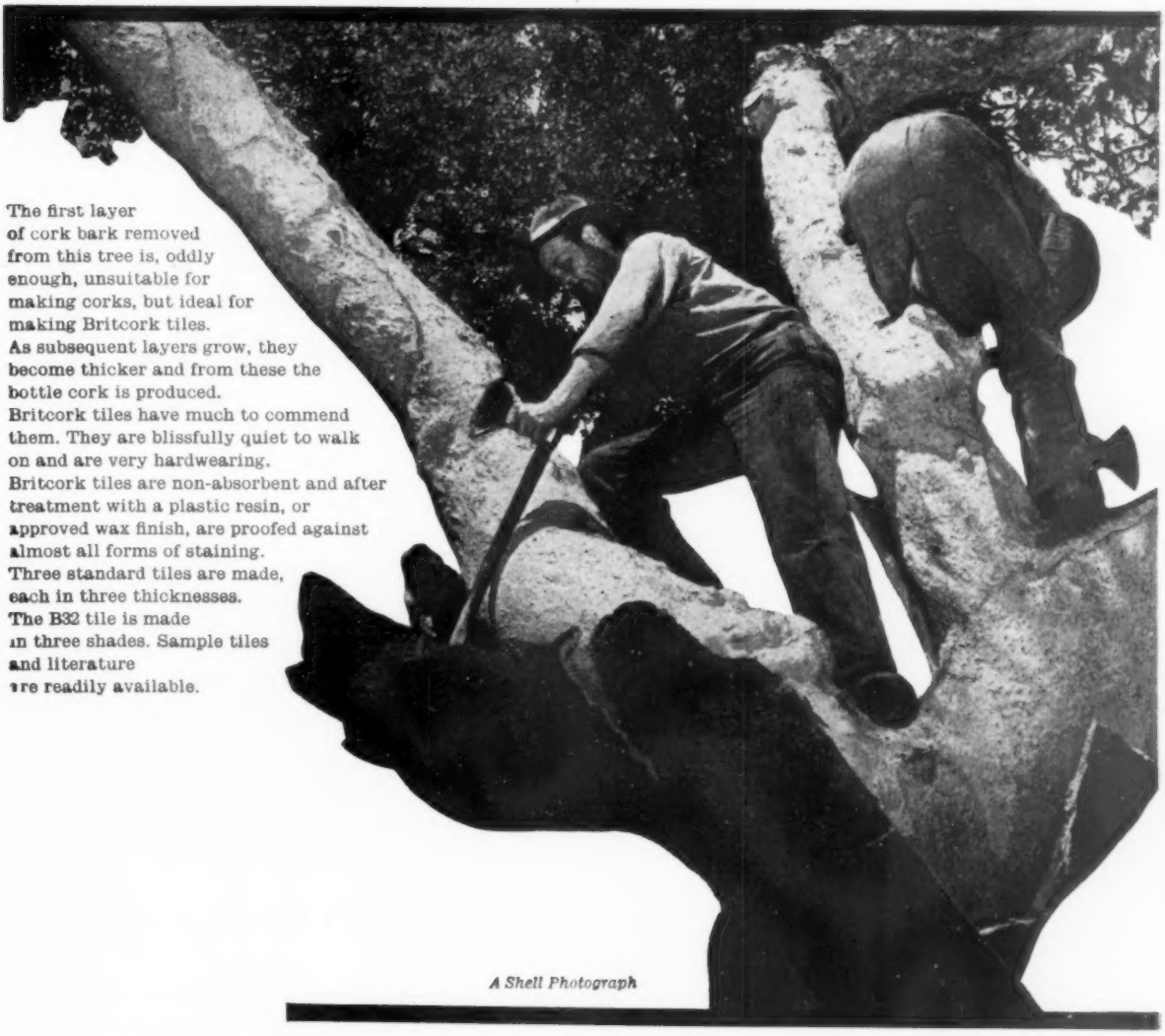
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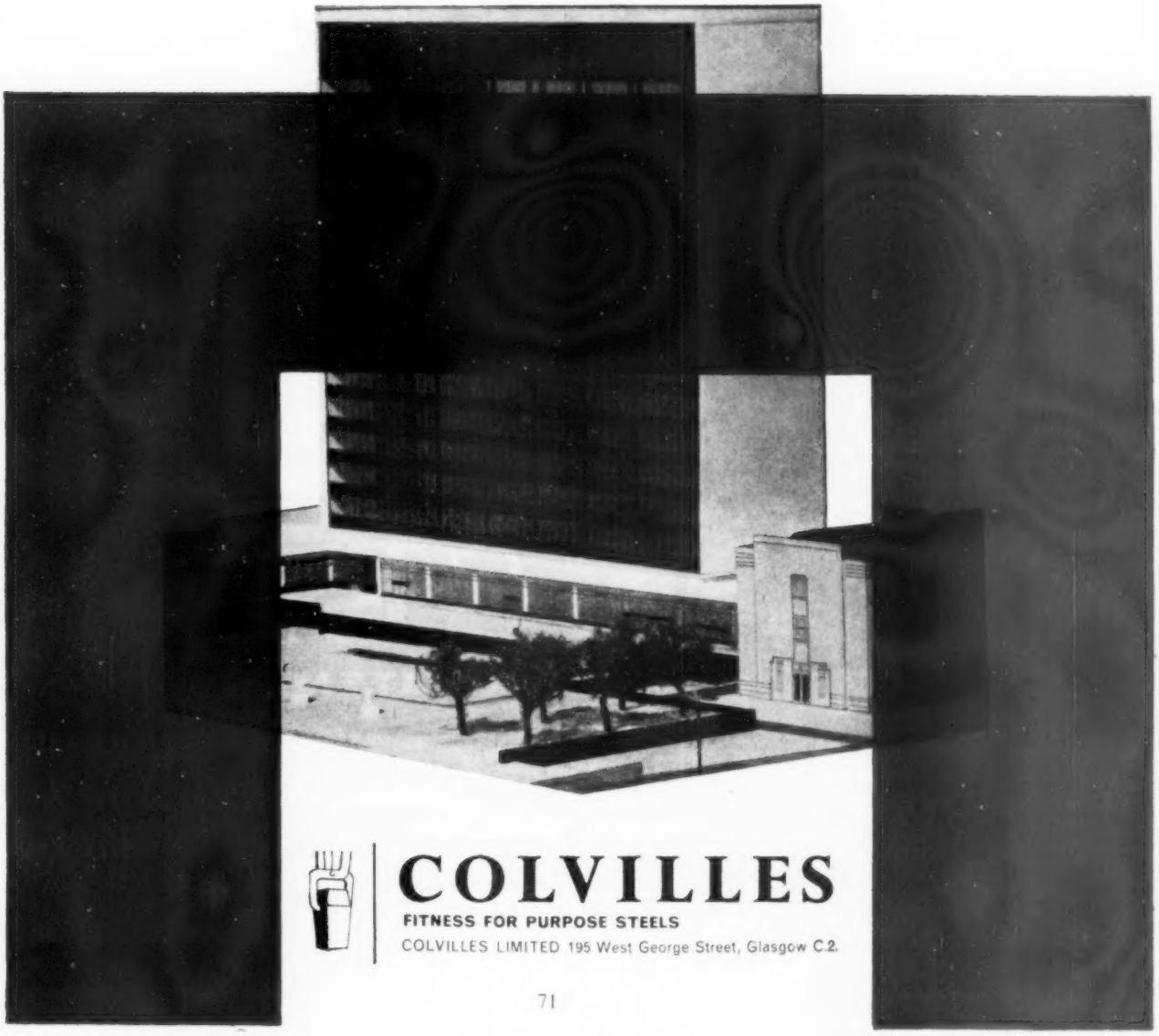
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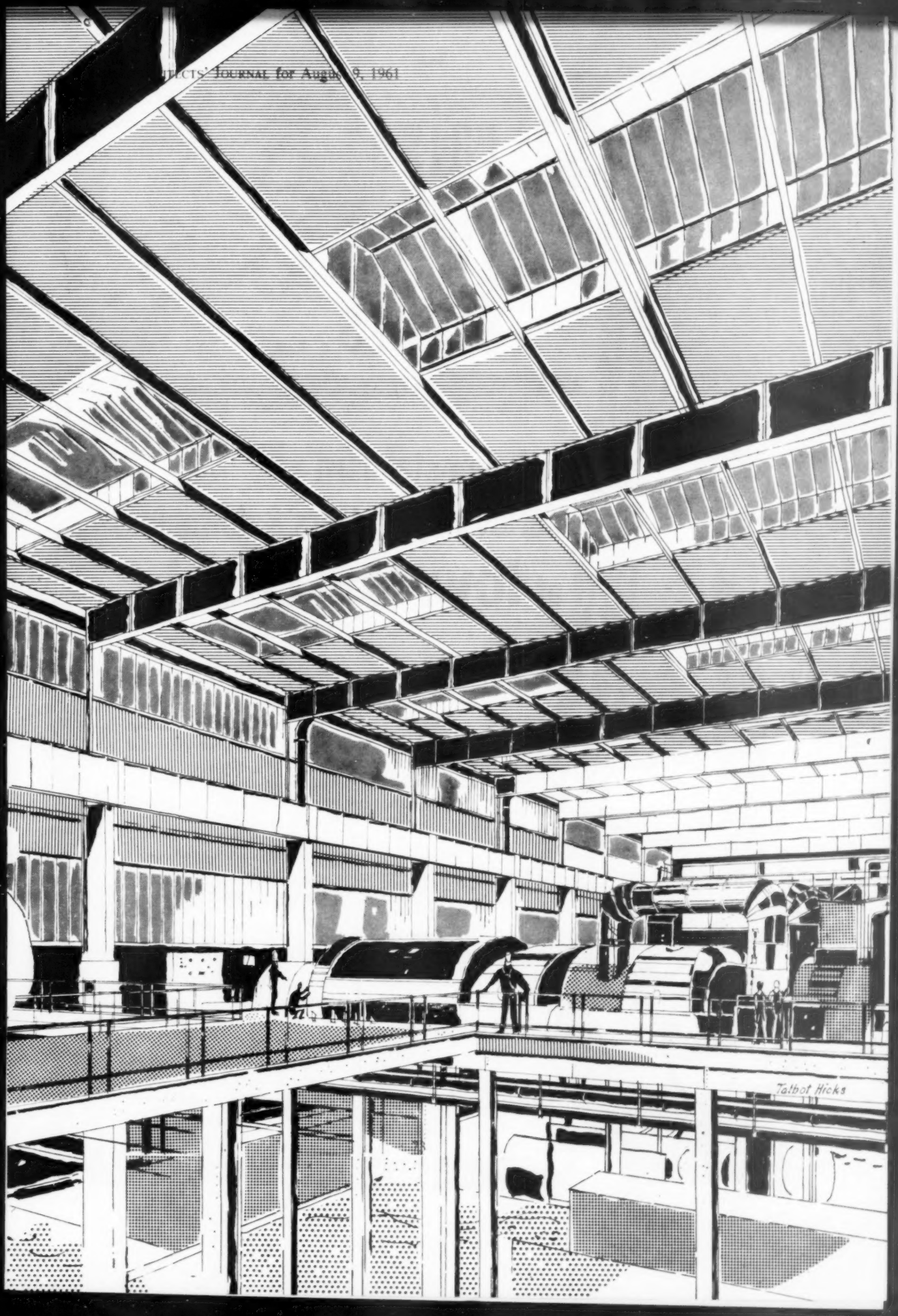
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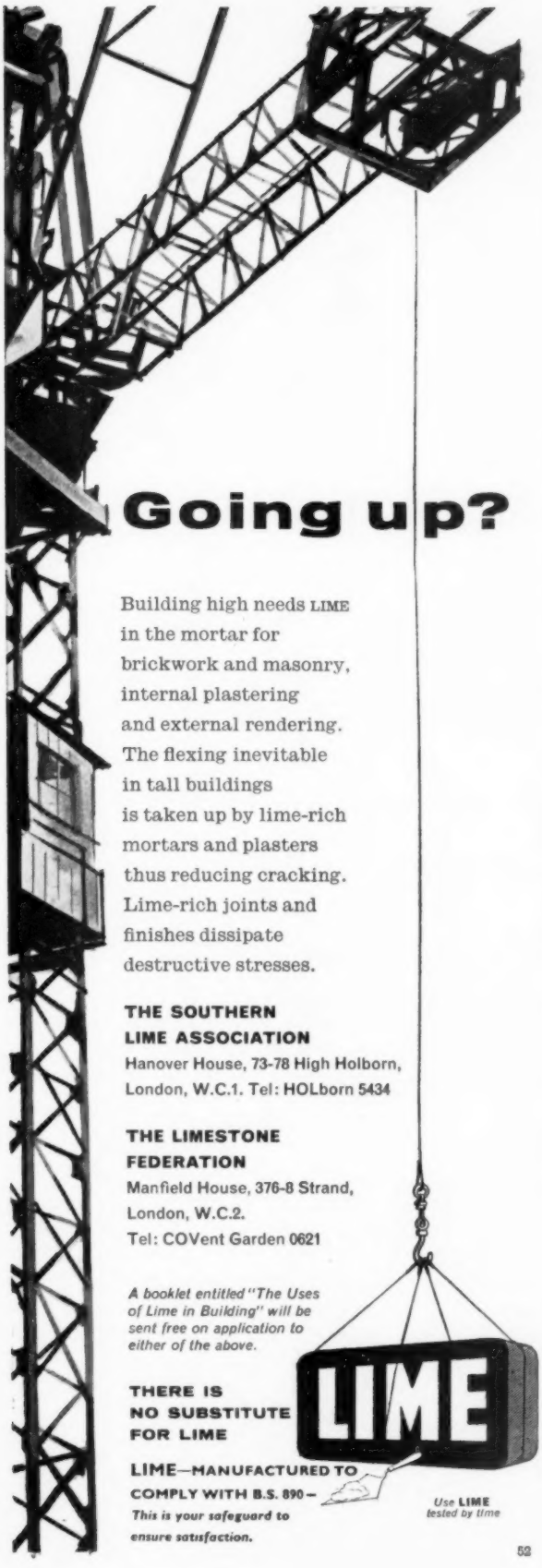
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**Patents applied for*

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The Architects' Journal

Vol. 134 No. 6 August 9, 1961

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NOT QUITE ARCHITECTURE

Building Study

MISCELLANEOUS COMPLEX

44, MAHLER'S TERRACE, THROATLEY

APPRAISAL

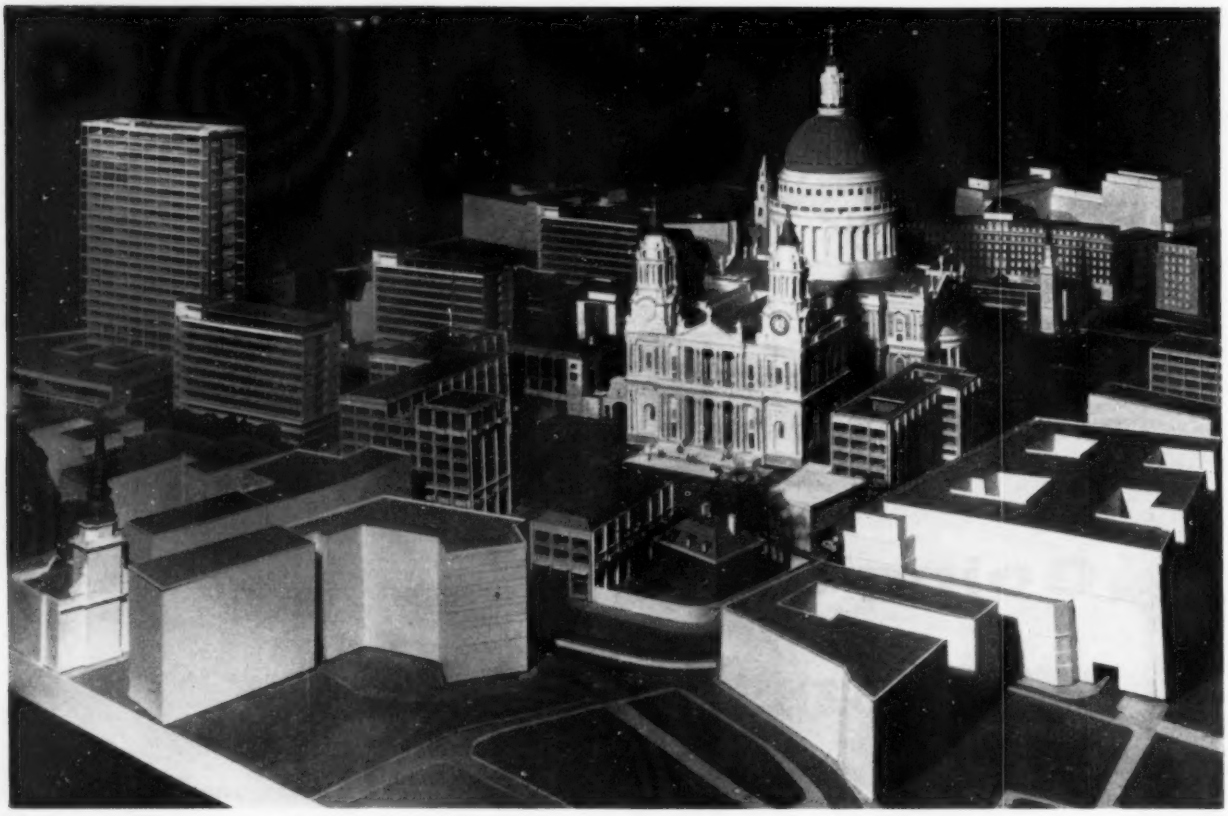
This project is interesting for various reasons, but notably for the speed of erection combined with a brevity of written and verbal instruction; the only real complications resulted from the client's insistence on using second-hand and waste materials wherever possible. Despite this, the work was completed within the estimated period, and the final appearance is testimony to the general approach adopted by all concerned.

CLIENT'S REQUIREMENTS

The existing premises of J. William Higgs and Son, general dealers, consist of a pre-1914 dwelling house, two up, two down, converted just after World War 2 without planning permission* for use as office and storage accommodation. The nature of the business was, and is, difficult to define. The front room, forming the office, is heated by a coke stove, and the fuel stored in a small outhouse, which, together with a w.c., is incorporated in a utilities wing projecting backwards into the yard area. Any person going to the coke store or the w.c. used to get wet, if it was raining; it was decided to overcome this problem by constructing a small covered porch, linking the back door and the amenities referred to.

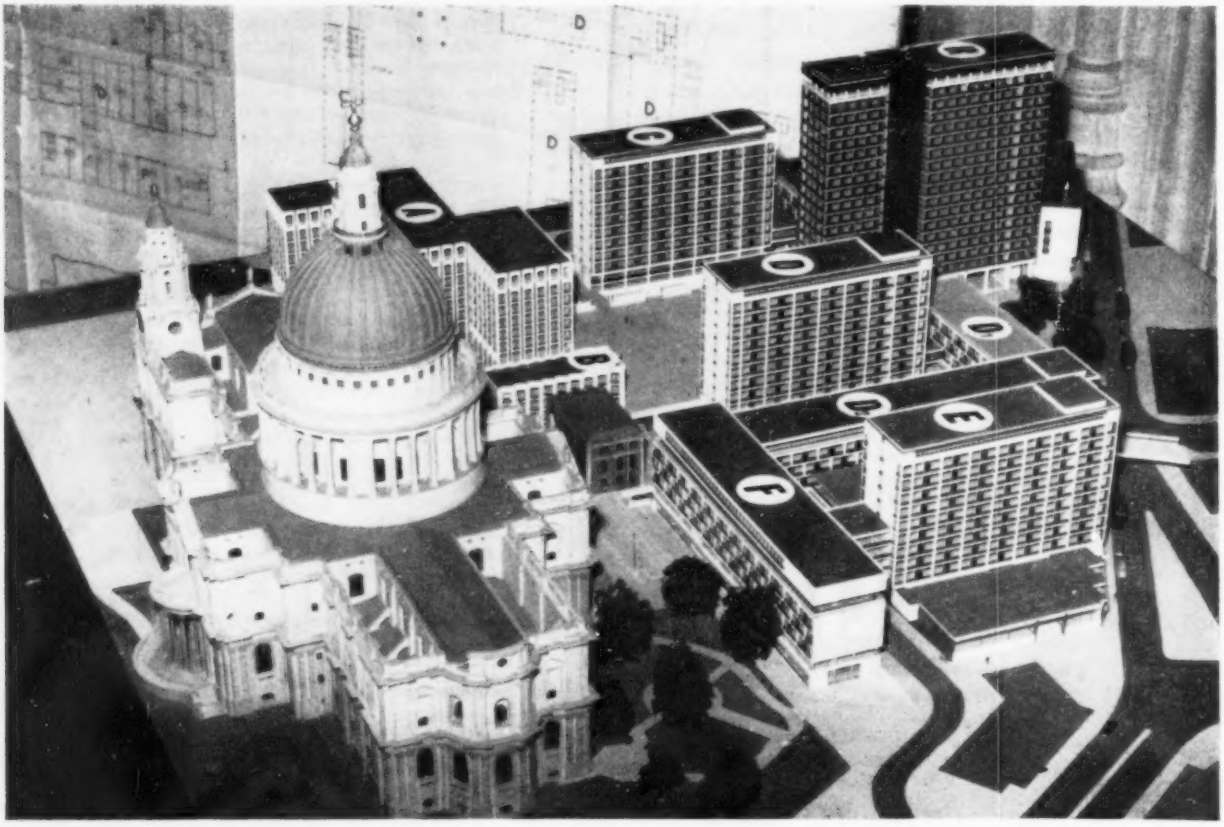
It was also decided to replace the existing w.c. door, which had been causing some concern, and to rebuild the back wall of the yard, the culmination of a long-standing dispute with the adjoining fish curers.

* "They were all too busy larking about with some development plan," says robust, pipe-smoking J. William Higgs.



Is this good enough?

Above, St. Paul's precinct, as designed by Sir William Holford five years ago, seen from the west : below, the precinct as finally approved on July 27 by the City of London Common Council, shown from the east. See leader opposite.



SITE

The site is the yard area to the rear number 44, Mahler's Terrace. It is approximately square, measuring 16 ft. × 15 ft., and the utilities wing extends some 6 ft. 4½ in. into this area. The side boundaries are of close-boarded fencing, with occasional gaps giving an interesting visual sense of "looking through," and the back boundary is of 4½ in. brickwork. Surface treatment of the yard is broken concrete and ashes.

PLANNING

During the briefing stage—one evening at *The Swinging Hod*—it became apparent that some form of structural support was needed for the corrugated iron roof of the canopy, despite the client's theory of a pure cantilever. It was agreed that a timber corner post should be used, with bearers spanning from it to the house wall and the utilities wing, to support the sheeting (supplied by the clients). All woodwork to be primed and painted one coat Government surplus green. The problem of replacing the w.c. door was solved by rehanging the door from the fuel store. The coke, claimed the clients, would come to no harm through exposure to the weather and would in any case be partly sheltered by the new canopy. The contractor agreed to the proposal but pointed out that some concession should be made to the building bye-laws regarding ventilation of waterclosets; although no drawings were being submitted to the authorities, indeed, there were no drawings at all, he felt it would be in the spirit of public health. The method adopted was to saw 6 in. off the door, top and bottom. It is an interesting historical note that the old door had solved this problem by the introduction of several 1-in. diameter holes, arranged in a rather gay star pattern in the upper part of the door, suggesting that the influences of *Art Nouveau* were more widespread than is often supposed.

The details of the remaining element of the complex, the rear wall, were settled following a site meeting of the parties concerned, and their solicitors. The client's solicitor claimed that the wall was quite sound, structurally, and gave a practical demonstration of its stability; he subsequently retracted this opinion, confirming by letter from the hospital. The clients agreed to demolish the remainder of the wall and rebuild it in 4½-in. brickwork, using the old bricks and some breezeblocks found in the fuel store; the contractor's suggestion of a brick-on-edge coping was rejected in favour of a sand and cement finish, weathered and treated with random placed broken glass. (Bottles supplied by the client.)

SUMMARY

Area of canopy: 24 sq. ft.
Type of Contract: P.R.S. Type V (P. of B.)*
Tender Date: March 1961.
Work began: March 1961.
Work finished: March 1961.

TENDER PRICE

Well, let's say about twenty-five quid but you know me, Bill; have another.

* Verbal (Pint of Bitter).

ALAN PLATER

The Editors

ST. PAUL'S PRECINCT: APPROVED BY ALL, SATISFYING NONE

We publish opposite two models of perhaps the most important single development scheme in Britain—the St. Paul's precinct. Above is the scheme designed by Sir William Holford five years ago, below the revised version just approved by the Common Council of the City of London, which gave the Church Commissioners the go-ahead last week, despite a plea for longer consideration by the LCC. THIS IS NOT GOOD ENOUGH. The massing of the tall block will damage the silhouette of St. Paul's and some of the architectural character is deplorable.

The revised scheme includes some improvements on Holford's original idea: the shopping precinct for instance seems to be more thoroughly worked out. But the vital question in any scheme for the precinct is, what does it do to St. Paul's? Here the bulk of the new tall block is a looming disaster, much worse in its present form—an ugly near cube—than the original taller, but slender block would have been.

This is the tragic result of the sort of demi-semi control of elevations exerted, with the best intentions, by the Minister, who ordered the reduction of height of a new building without considering how it would be done and without reducing the plot ratio. Holford put forward a scheme which included a block 260 ft. high: the Minister found it acceptable except that he ordered a reduction in height to 204 ft. *with no loss of floor space.* What was lost in height has been gained in bulk, with altogether lamentable results. The actual carrying out of the scheme has been placed in the hands of Trehearne, Norman and Partners, a firm which, however competent, cannot make a worthy background to Wren's cathedral when the initial concept is wrong. Ministers and Church Commissioners (who presumably do not consider lettable floor area the paramount question) should not be ashamed to think again for this truly exceptional site.

WHAT IS WRONG WITH OUR HEAT LOSS CALCULATIONS?

On page 200 we publish an Information Centre item on a report on the Heating of Buildings by Off-Peak Electricity Supplies published by the Heating and Ventilating Research Association at the request of the IHVE.* The investigation reported in this document set out to discover why it is that electric underfloor heating installations give better performance over the season in respect both of the amount of usable heat provided and of the fuel consumed, than the IHVE's standard method of computation would lead one to expect.

The reason for this, so the report says, is that we allow for

*To be exact, by a Committee of the Heating and Ventilating Research Association, a body set up by the IHVE

too high a ventilation rate and too little for stray heat from cooking, etc. If this is true for electric underfloor heating, is it not equally true for other forms of heating? For neither of these factors is peculiar to any particular form of heat input. The conclusion, as the Committee points out, is both that the percentage efficiencies of some other forms of heating appliance are, in fact, some 15 to 20 per cent lower than they are supposed to be; and that the classical methods of heat loss calculation are less widely applicable than we like to think. Either way, the findings must be highly disconcerting to the IHVE. The moral, surely, is that the development of new forms of heating and the wide use of structures with untested thermal properties, together call for much more experimental work on actual buildings than has up to now been contemplated.



IT SHALL NOT FALL!

ASTRAGAL was delighted to hear that the Victorian Society and other bodies concerned about the destruction of historic building have lost no time in getting together for an emergency discussion of what is to be done to save Euston, not only the arch but if by any means possible the Great Hall and the Directors' Room as well.

*

It is already clear, from reactions to the AJ's frontispiece last week, that there is strong feeling that the £190,000 needed to reconstruct the arch must be found, by whatever private generosity can be aroused to counterbalance Government meanness. Moreover distinguished and responsible members of the architects' profession have been heard to declare themselves ready to chain themselves to the arch, to parade with black sashes, to lead, or to follow, any pro-beauty processions that may be held. Good luck, say I, to all who actively protest: and very bad luck to any who just sit and moan.

BEAU LIEU FOR JAZZ

Two third-year AA students, Michael Hopkins and Michael Pearce, designed (and made with the help of two local men in two days) the light, cheap, and effective bandstand for this year's Beaulieu Festival of Jazz shown opposite. With a budget of £750 to work to, and the need for a bandstand which would accommodate a large and a small band (alternately, not in unison), and could be swiftly put up and taken down again and easily transported, Hopkins and Pearce turned out this very creditable job in 8 × 4 standard sheets of plywood at the cost of £450. (How many of their seniors do so well by their client's budget?)

*

Finned, cruciform supports with hardwood fillets supported the ceiling grid, which, like the baffles at the sides and back, were shaped to use the cut-offs from the pillars, so that there was practically no waste of plywood. The roof was braced by thin steel tension wires and covered with polythene sheeting.

*

Prefabricated in 15 parts, the whole thing goes on three lorries, and is now available for similar festivities elsewhere (it already has 12 bookings for this summer). Sad that next summer, Beaulieu apparently will not be available for it: is jazz really so intoxicating that it can only be safely conducted in guaranteed unbreakable, unspoilable surroundings?

HELLISH PORT

So we may get a London Heliport. The short list of suggested sites recommended by the committee convened for this purpose includes Nine Elms, Cannon Street Station, and St. Katherine Docks. If approved the prospects of reserving and safeguarding sites and the noise problems are to be studied carefully. Noise control by height has been mentioned; but it would require the raising of a platform some 600 feet to reduce the noise by half and this would still leave many noise-victims.

*

So that you get an idea of the probable cost, I may only mention that a platform about 200 feet high would be about £2 million cheaper than a platform of 600 feet high; heaven knows what it would cost to build, but the gain in noise reduction does not seem to amount to much. We are very good these days at spending fabulous sums in order to achieve minute goals and in this case surely a howl would go up, bigger even than the noise of the helicopters.

*

As types of aircraft, helicopters, anyway, are not the up and coming machines we thought they were. They are useful only in a limited sphere. Nor will they for ever claim the monopoly of vertical take-off. Before we resign ourselves to such fantastically costly makeshifts led us to put the ball firmly in the court where it belongs: that of the aircraft industry. Let them search for and provide better answers for the problems of vertical take-off, landing in confined spaces and noise reduction.

COURAGE NEEDED

"Informed local opinion is a necessary constituent of healthy local government." "Imagination, courage and vision are needed to prevent our city stagnating." These familiar but none the less worthy comments were made by the Lincoln Architects Planning Committee and were quoted, together with much more good sense, in a recent copy of the *Lincolnshire Echo*. The local architectural society, the Lincoln Civic Trust and others had all protested at a Ministry inquiry into a proposal

to develop a 71-acre housing estate which would have resulted in " a substantial departure from the development plan." The Ministry rejected the proposal, ASTRAGAL learns, and the reasons he gives are the same as the main objections put forward by the Lincoln architects. The Minister's decision also reinforced the architects' contention that the Lincoln authorities were neglecting town planning. Here is an all too rare instance of architects taking a leading part in local affairs. Perhaps the news of their success will put heart into other societies to act likewise and to try to get " a new and enlightened approach " to town planning.

SURVEYOR'S ARCHITECT

The RICS are going to rebuild their headquarters in Great George Street, alongside Parliament Square, and they have chosen Denys Lasdun to be their architect. The RICS are to be wholeheartedly congratulated on their choice. Here is no attempt to play safe, to compromise, or to keep the job for a member of their institution, such as a lesser body might be tempted to do.

*

ASTRAGAL has only one regret. The RICS, the ICE, Middlesex County Council and the MOW's office block and conference centre (now the subject for a competition) form one block on the west side of Parliament Square. What a pity it is that these obviously enlightened owners have not collaborated to produce a comprehensive plan for the eventual redevelopment for the whole of this site so that there evolves a worthy companion to Abbey and Palace.

A HOT POINT

Once upon a time there was a Building Centre, and if you wanted to know anything about building you went there. But in recent years other people have followed up the idea, and there are lighting centres, housing centres, wood rot centres, bedding centres (most loathsome joke of the week: the restyled Bedding Centre sells two mattresses which can be joined down the centre by a zip-fastener; it is called " Double or Quits ") and several others.

*

The latest centre to be devised is a heating centre, and ASTRAGAL welcomes it as warmly as all the other centres. Indeed, perhaps a little more, because the Heating Centre (opening at the end of the year at 34/38, Mortimer Street, W1) promises to be a rare source of argument and fact-binding. " A staff of experts," says the Press announcement, " will give impartial advice on all heating problems, large or small . . . guidance on the source of heating and type of appliance . . . equipment can be examined . . . purchased . . . deferred terms arranged. . . ." And all this will be given by an organisation, states managing director David Pither (of Pither's Radiant Stoves, who with the London Warming Co. are providing this service) which will be entirely free from ties to any one source of heat or any particular manufacturer.

*

So if the protagonists of electricity or solid fuel and so forth at the Building Centre have confused your client, and you don't want to burn your fingers, you know where you will be able to send him for a precise answer to the question: Which fuel gives the most heat at the lowest cost?

*

The only disadvantage about these various specialist centres is the barely negotiable miles of streets between them. The solution, surely, is to combine them all in one, great, big . . . but this is where Frank Yerbury came in . . . or did he go out? Anyway, over to Gontran Goulden, flushed with IUA success, to find a solution.

ASTRAGAL

Jazz bandstand in full blast at Beaulieu Festival. Two AA students designed and built this temporary bandstand from plywood. See Beau Lieu for Jazz



LETTERS

Peter Warwick,

Editor of "Mobile Home," the journal of the luxury flat on wheels

Peter Cowan, DiplArch, ARIBA

P. M. White, ARIBA

Ewart B. Redfern, ARIBA

C. E. Wide

J. M. Jones & Sons, Ltd.

Building and Civil Engineering Contractors

Caravans defended

SIR: It is clear from your leading article (19.7.61) that you like caravans just about as much as I like glass cube structures that frizzle me in summer and freeze me in winter. But you really shouldn't allow your quite legitimate emotion to upset the usual balance of your expression.

In your note you say "clearly, caravan life, as it is, militates against good health." Yet a chief public health inspector has said: "My experience over 31 years shows that the incidence of sickness on caravan sites is lower than that among house dwellers."

By what process of reasoning do you select such a word as "clearly"? It isn't clear at all. In fact, the only clear conclusion that has come out of all the health surveys up to now has been that a happy and well-adjusted person is likely to be healthy whether living in a house or a caravan. The neurotic, the chronic grumbler and the hypochondriac is likely to be unhealthy even in the Ritz Hotel.

You say that the size of trailer caravans is limited by law to 22 ft. by 7 ft. 6 in., and add that larger ones "do exist." They don't exist in quite the begrudging fashion that you appear to indicate. Mobile homes more than 22 ft. by 7 ft. 6 in. make up a substantial proportion of caravan production at present. I can't give you the figure (perhaps the National Caravan Council could) but I know many manufacturers who are producing more of the larger models than the 22 ft. models.

You talk about the Social Survey and its findings. But all this was more than two years ago. When they talked about overcrowding "by housing standards" they were technically accurate, but for you to imply now that "virtually all vans" are overcrowded is a distortion of the facts.

The whole of your attitude to caravans is overlaid with prejudice. And while that is quite permissible (in common with my prejudice about glass cubes) you would carry more authority if you relied less on questionable statistics and out-dated expressions of opinion.

I could take you to a mobile home park where the people are happy, healthy and living useful and entirely commendable lives. You could no doubt find for me a caravan site housing unhappy, unhealthy, and possibly socially degenerate people. What does that prove? Surely, it merely underlines the great differences in character and personal make-up among us all; some people can display a nobler spirit in a hut than others in a palace.

Certainly, there is nothing at all wrong, from points of view of health or spirit or character, with many thousands living full lives in modern mobile homes on the new types of park. It is anachronistic for you to go on beating the drum about "sub-standard housing."

And it is petty to use your literary talents on such cheap gibes as the last sentence in your note. If we are to talk about prisons, I would be tempted to retort that you are in a prison made up of your own monolithic prejudices.

PETER WARWICK

London, WC2

THE EDITORS REPLY: *The National Caravan Council estimates that there are* 225,000 *permanent caravan dwellings: at most* 25,000 *of these are thought to be larger than* 22 *ft. by* 7 *ft. A retired couple living in Devon could, we do not doubt, be happy and healthy in one, but we do not believe a family can live satisfactorily in this space. In* 1960 *Dr. Hodgkin of Redcar published in the British Medical Journal a survey of caravan-dwellers' children, compared with children in houses: he had found that respiratory diseases, gastro-enteritis, skin sepsis, accidents and trauma proved* 1½ *to* 2½ *times more common in children in caravans. Such, for some, are "luxury flats on wheels." We believe that money spent on improving sites for them (Bushey* UDC *estimates* £350 *per van) would be better spent on permanent housing.*

Hospital costs

SIR: Your editorial on Hospitals Research (AJ, 26.7.61) raises issues with which I have recently been much concerned ("Research" RIBA *Journal*, April 1961).

I fully agree with your critique of the difficulties inherent in research activity within an executive department of central government. The pressures under which such research operates are fairly obvious, in particular the influence of the Treasury towards short-term studies as opposed to long-term planned investigation is of major importance.

However, I feel that little would be gained in setting up a centralised but independent research body as you suggest. The problems posed by the National Health Service are particularly complex since the degree of planning and provision for improving the nation's health must always remain the subject of political debate. The studies required in implementing the National Health Service (of which the Hospital Building programme is a relatively small part; expenditure upon the hospital building programme amounts to approximately 5 per cent of the total cost of the service, according to the Report of the Ministry of Health 1960), range from fundamental investigations of social, economic, and demographic factors and their effect upon the health of the nation, to detailed studies of equipment design for individual hospital buildings.

It is obviously not within the compass of any one organisation, whether financed publicly or privately to carry out such a wide range of investigations on its own account. As witness the Medical Research Council (which is an independent government research institution, responsible not to the Minister of Health but to the Minister of Science) in which the primary effort is directed towards supporting medical research in subsidiary projects located throughout the country (76·6 per cent of the total expenditure is used for this purpose according to the annual report of the MRC 1959/60). A central agency might reverse present trends for research in hospital and health service matters to be distributed through various organisations (in particular the Regional Hospital Boards and the Universities) and for individual problems to be tackled by small groups of workers within a reasonable time limit. The question of time also seems to preclude a central research organisation, since this would require a considerable period before it could become in any sense operational.

A flexible and supple organisation is needed, which will respond quickly to the changing needs of the rapidly expanding situation in which the National Health Service is operating. A loosely knit series of individual projects linked by an efficient communication network will, I feel, provide a better answer than the more rigid concept of a central research organisation. I should like to emphasise that the Ministry's most important function is to collect, correlate and disseminate current research information. The Ministry has already begun this and it would be a retrograde step to discourage a most welcome trend.

It is only by executive action on the part of the Ministry that research findings can be put into practice on any large scale. While agreeing with the point that research should ideally be separated from the executive, I have tried to point out the dangers and the difficulties in setting up a strictly parallel organisation.

PETER COWAN

London, NW8

Design of churches

SIR: A church dignitary stated recently that we had missed opportunities of progress in the design of modern churches. This is surely a case of the blind leading the blind as priest and architect shut their eyes to a new vision and cling tenaciously to the modes of yesterday.

One of the outsider's most damning criticisms is that Church life contains more organisation and less that is spiritual. But there is little that the architect can do, in his professional capacity, unless the priest,

with appropriate backing, will promote development activities amongst the people.

Not many churches, for instance, make the best use of the forecourt between their building and the road. Properly laid out, landscaped and planted, this space would be ideal for an open-air rostrum, entered perhaps from the building. Instead of relaying indoor sermons outside, the preacher might address the garden audience while those within could see and also hear, with supporting sound apparatus.

This point relates also to the thick back wall so often looming over one at a church entrance. Of course a neat and tidy building is more approachable than a decrepit and dangerous one, but first provide your visitor with shelter, allow him elbow-room to overcome newcomer's nervousness and then let him see that a public meeting of special character is taking place within. Glass doors or partitions can be very useful at such entrances, and latecomers will appreciate a minute in the lobby, instead of struggling with a dark and heavy door.

Both architect and priest might drop their professional shields in order to promote the spread of Christian teaching. No amount of better church buildings will compensate for a lack of true social sympathy extended to all outside the local church group.

Internally the design of modern churches was criticised for preventing new forms of activity. This is a similar theme to that which gave us circular assembly halls in infant or junior schools. Because educational activities often focused around an object or person, the space enclosed was circular in plan. It is true that the altar or communion-table is the central feature. Some church systems draw out the celebrants to the altar, in others the elements or host are passed through the audience. If this form of service, essentially worship, were given more prominence, and worshippers were encouraged to take part in the services to a greater extent, then the design of churches would need to alter radically.

While the internal pulpit dominates the church today, it is not the fault of the well-meaning architect, but of the unseeing cleric who dominates the congregation.

P. M. WHITE

Bristol

Poll on architectural education

SIR: Despite your opposition to the poll, I must at least congratulate you on lively correspondence columns drawing opinions from both sides.

ASTRAGAL is partly right regarding the functions of the RIBA Council, and no doubt they *could* oppose recent recommendations of the Board of Architectural Education; but they don't even bother to comply with the Bye-laws.

Three examples might bring this out:—

(1) At the RIBA annual meeting I quoted the case where the secretary announced a "decision" six weeks *before* it had been approved by the council (as required by Bye-law 49).

(2) At the same meeting, the chairman of the board announced that a form of selection board *had been* set up, and this decision has neither been approved by the council, nor published in the journal.

(3) Bye-law 49 requires these decisions to be "published forthwith," and one of the major decisions taken years ago wasn't published for over a year.

It seems, therefore, that something is wrong, and the proper remedy provided for in Bye-law 60 is to call for a poll among all RIBA members. The RIBA is an association of 20,000 people, and the council and staff ought to welcome guidance from the members if more than double the council's number think they might be running off the rails on a particular issue.

The council and board *may* have a majority support, but as we now know, it is quite possible for democracy to die in organisations of the trade union type and it is certainly odd that Members' comments at this year's RIBA annual meeting were rewritten by the staff before publication, and weren't published until after the Election (for the first time).

EWART B. REDFERN

Exeter

SIR: Kenneth Claxton writing as Hon. Secretary of BASA uses a lot of big words in running down Mr. Redfern's suggestion of a vote on architectural education.

It would probably be fair to call BASA the British Architectural School Student Association and because of this I do not feel that he can represent all students. There are a vast number of students outside of the schools.

If the committees and organisations which are working on the problem of education consist of 50 per cent school trained and 50 per cent externally trained members the result would be fair. If not, why not a vote by those who have qualified in or out of school?

Good architecture is dynamic because it is balanced not biased.

C. E. WIDE

Exeter

Running a job

SIR: We have been most interested in your series of articles "Running a Job" for which there have now been articles up to and including 41 out of the 62 proposed.

The guidance given in this series is of special help to our Production and Planning Department as it guides the staff in the order in which information is requested, and we have therefore extracted them from the JOURNAL each week with a view to forming a special file.

We write to ask if it is your intention to publish the series in due course in book or any other form.

J. M. JONES

Maidenhead

This series will be republished in book form during 1962.

NEWS

RIBA

Election of honorary officers

At the Council Meeting on July 25, Sir William Holford was re-elected president, along with the following officers: *vice-presidents*, Frederick Gibberd, E. Maxwell Fry, J. L. Womersley; *honorary secretary*, Donald Gibson; *hon. treasurer*, Hubert Bennett.

A full discussion took place at the meeting of a proposal by David Hyde Harrison that the RIBA launch a building society to provide mortgages on houses of good modern design, which had already been discussed at an informal meeting earlier in the month. As a result the Council came regretfully to the conclusion that the possibility of the RIBA launching its own building society was financially out of bounds, and not the answer to the problem that Mr. Hyde Harrison wanted to see resolved.

MOHLG

Land Compensation Act 1961

This Act came into operation on August 1: the new Act repeals and re-enacts in consolidated form the provision of the 1919 Land (Assessment of Compensation) Act. Tables of Comparison are now being prepared by the Ministry, which will shortly be available through the Stationery Office, which show where each of the existing provision in the 1961 Act is to be found reproduced and the source of each new provision.

Bracknell new town expansion

The Minister of Housing has approved a modified version of the proposed extension of Bracknell New Town, to allow for an ultimate population more than double the present planned maximum of 25,000. The effect will be to extend the designated area of Bracknell by some 1,230 acres to the west and south of the town.

LETCHWORTH

Soaring land values

The first freehold building land to be sold since 1903 at Letchworth Garden City was bought for private development at the end of July. Acquired for £40 an acre, a 10-acre site fetched £50,000 and two sites of under two acres each sold for £6,500 and £7,000. Planning permission has been obtained for building detached and semi-detached bungalows and houses, and one three-storey block of maisonettes on these sites.

ARCHITECTURAL HISTORIANS

Conference in Edinburgh

The Annual Conference of the Society of Architectural Historians of Great Britain will take place in Edinburgh from September 15 to 17, and will use the opportunity both to discuss and visit examples of the distinctive tradition of Scottish architecture. P. E. Johnson-Marshall, senior lecturer in Town Planning at Edinburgh University, will be speaking at the Conference on "Edinburgh in the Twenty-first Century"—a wholesome indication that the architectural historians are concerned with making as well as taking history.

MOH

Regrouping teaching hospitals

London's postgraduate teaching hospitals are gradually to be grouped together in two areas of London, Bloomsbury, and Kensington and Chelsea. This announcement from the Minister of Health, Mr. Enoch Powell, came after a discussion he held with the mayors of Kensington, Chelsea, and Fulham, at which he assured them that the rearrangement would not entail a loss of existing hospital facilities in the area, nor would it bring a large increase of students into the area. The proposals involve the redevelopment of the sites now occupied by Chelsea Hospital for Women (which is moving to Queen Charlotte's) and of St. Luke's Hospital. The Brompton Hospital (with which the London Chest Hospital is to be combined) and the Royal Marsden will be developed on their present sites in the Fulham Road.

IME

No amalgamation with ICE

The ballot of members of the Institution of Municipal Engineers on the question of amalgamation with the Institution of Civil Engineers produced a vote of 1,342 for amalgamation and 1,020 against.

As a two-thirds majority was required, however, for the proposal to go through the Council has decided that no further action towards amalgamation can be taken.

ENGLISH-SPEAKING UNION

Neville Conder wins award

Neville Conder has been awarded a Ford Foundation English-Speaking Union Travel Grant to the United States for 1961-62.

Three other grants are awarded to R. W. Rose, Isle of Wight County Surveyor and Planning Officer, to Peter Bird, director of Bradford City Art Gallery, and to Anthony Besch, opera director at Glyndebourne.

REFORMATION FOR A REFORM SCHOOL

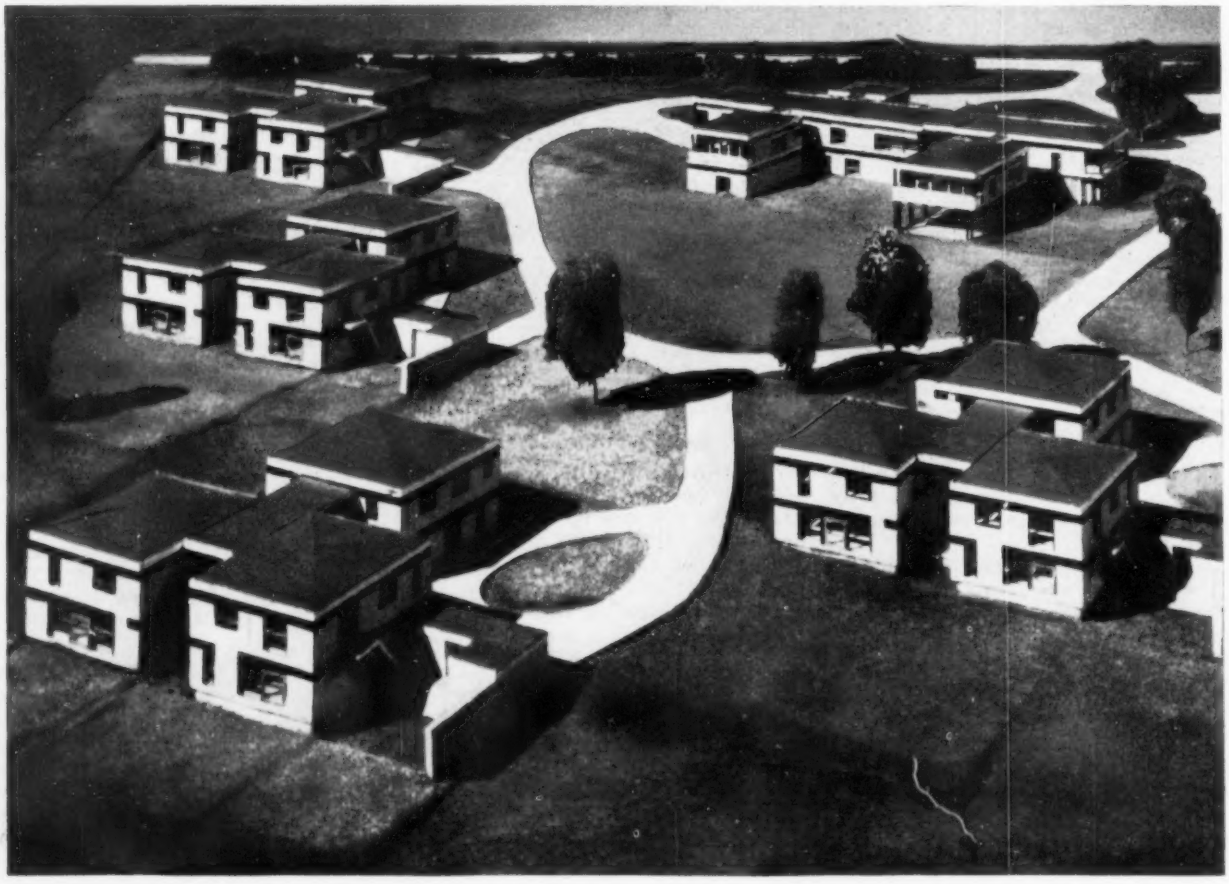
St. John's Approved School, Tiffield

The projected approved school at Tiffield, illustrated here (designed by James A. Crabtree & Associates), is the first specially designed building of its kind in this country—hitherto approved schools have been housed in converted country mansions. It is also one of the first new buildings planned for the Home Office since the announcement of a £5 million building programme for approved schools. St. John's has therefore a special interest as being the likely pattern of things to come, and its design set the architects some new problems.

The client's brief asked for a school which should cater for boys in fairly small groups—a proposal closely in line with the United Nations' recommendations on the subject, and before setting to work James Crabtree studied a Swiss experimental approved school, the Socialheim, built in 1947, which indicates how far our penal buildings are lagging behind.

The plan adopted provides for four houses, each taking 30 boys and a small staff, who will it is hoped get to know them

Model of approved school at Tiffield



St. John's Approved School



Site plan [Scale: 1" = 160']



First floor plan of typical residential block [Scale: $\frac{1}{32}$" = 1' 0"]



Ground floor plan [Scale: $\frac{1}{32}$" = 1' 0"]

closely as individuals and be able to take a personal interest in each boy and his particular problems. Each house consists of three "wings" with a central, two-storey link block which forms the circulation area. Dormitories are on the first floor, each near a resident staff member, with ground floor washing and changing rooms, stores, a games room and a quiet room, and dining room and kitchen.

These three houses are grouped round a central headquarters block, which will contain a boardroom, staff flats, a surgery and sick bay, staff dining room and kitchen, sewing room and clothes store, a chapel, and under one wing a covered assembly area for 120 boys.

The new school is on the site of an existing approved school, which it is eventually to replace, but to avoid complete rebuilding in the early stages, the new buildings had to be placed adjacent to the old, on the existing football pitch. This involved the building up of the whole south end of the site, which is sloping, waterlogged and contains a considerable amount of made-up ground over an old pond, to provide a site for a new football pitch. In addition to this, the site offers difficult foundation conditions, so the construction of the buildings was designed to resist possible strains caused by settlement. For this purpose a light steel frame of hot rolled steel box stanchions was chosen, which had the merit of reducing the weight of steel employed by about 50 per cent, and the cost by some 25 per cent. The stanchions are sealed top and bottom, so that no corrosion can take place inside, and only the exterior of the frame has to be protected. Roof framing is integrated with the wall frame, and the roof is to be covered at an early stage with felt-covered strawboard slabs, so that work can go on below whatever the weather. The walls will be constructed of the new "V" block recently developed by BRS, providing a 9-in. cavity wall with a higher thermal insulation value than an ordinary 11-in. cavity wall. The "link" area of each house will be clad in 10-in.-wide glass trough panels, as being more economical than patent glazing. Windows will be glazed in ¼-in. drawn glass as being stronger and cheaper than polished plate of similar thickness. All the buildings will be heated by a district central heating system using underground ducts.

General contractors for St. John's are Marriotts, who have undertaken to complete the job in 18 months.

DIARY

Westminster Housing Competition, winning designs: Exhibition at Westminster City Hall.

Until SEPTEMBER 5

Visitors' Britain: Exhibition of HMSO Guidebooks, Charing Cross Underground Station, weekdays, 10.30 to 7.0.

Until AUGUST 26

Stage Design in Great Britain Since 1945: Art Council Galleries, St. James's Square, London, SW1, 10 to 6. Admission 1s, 6d.

Until AUGUST 25

HOSPITALS

Congress at Venice

The attention of the twelfth International Hospital Congress, which took place last month on San Giorgio Maggiore near Venice, was appropriately centred on the changing role of the hospital in modern society. Discussion was arranged under three heads: (1) different methods of financing hospital care; (2) changing characteristics of patient care; and (3) changing characteristics of hospital planning and construction.

Dr. Abel Smith of the London School of Economics gave a lucid and entertaining summary of the discussions under the first head which deserves to be printed in full and read by all who are interested in the subject: in the hope that it will be, this report concentrates upon the other two aspects under discussion.

Changes in care of the patient can be placed under two main heads: the first, known as Progressive Patient Care, is an American experiment and was described by Dr. Ray Brown, administration of University of Chicago clinics; the second, the extension of out-patient facilities to a point which makes the hospital directly responsible for the health of the community.

Progressive patient care has been tried in about 200 American hospitals of 200 beds or more during the last six or eight years. Here the patients are geographically distributed on nursing floors, in wards of about 30 patients or more, according to the amount of nursing care they require.

They are classified in three divisions: (1) intensive: 6 hours per day of nursing care, or more—excluding diet and housekeeping; (2) intermediate: 3½ hours per day of nursing care, i.e. normal hospitalised patients; (3) mobile: no nursing care except medication and monitory.

Dr. Brown emphasised that all hospitals using this system also had post-operation recovery rooms and hotel or self-care sections, features common to nearly all American hospitals.

The system had been devised with the object of economising nursing skill and costs, and facilitating dilution. It had numerous disadvantages, which he enumerated as follows:

(*a*) Large hospitals segregate patients according to the form of treatment they are receiving which permits the use of specialised personnel and equipment. Progressive care cuts across this arrangement.

(*b*) Doctors find the arrangement less convenient because their patients are scattered all over the hospital.

(*c*) Teaching hospitals find it difficult for the same reason.

(*d*) The incidence of patients who are critically ill does not remain constant. Empty beds are an embarrassment in high cost wards.

(*e*) In a country where patients pay according to the treatment they receive, movement in and out of the intensive unit is complicated by financial considerations which at times may influence the doctors unduly. Special committees have had to be set up to deal with cases in which doctors' decisions have upset the nursing staff.

(*f*) There are psychological problems with patients, who get worried when moved to the intensive unit, and feel neglected when moved out. Nurses dislike nursing on floors when there are no critically ill patients.

(*g*) The system has proved to be *more* expensive than the normal arrangement.

In spite of this formidable list of objections, opinions in hospitals where this has been tried in the United States is strongly in favour of Progressive Patient-Care because they say it is the only system which allows critically ill patients to be nursed in a way that will stand comparison with the ministrations of a private nurse, now priced out of existence.

An alternative to this system has been worked out at John Hopkins Hospital and described in a paper published by Dr. Flagel in the May issue of American Hospitals Association Journal. Time taken to nurse every type of patient has been carefully investigated, and a method of classification arrived at (in practice it varies in proportion to the amount of clean linen required) which makes it possible to estimate accurately the nursing requirements of each ward, and transfer nurses when they are needed in accordance with calculations checked daily. Under this system seriously ill patients are kept near the nursing station where they can be under close supervision. They are not segregated.

The Ford Foundation Hospital at Detroit in which developments described by Dr. Howel are taking place, has five hundred salaried doctors and draws its patients from an area within a 20-mile radius centred on Detroit. It is run for profit and makes a large one, which perhaps reflects the fact that it is able to select from a wealthy population without providing a comprehensive service in the sense in which we use the term, i.e., without catering for all sections of the community. The out-patients department handles 2,000 patients a day (called ambulatory patients in the U.S.A.) only one-third of whom are accidents, the remainder being ordinary medical and surgical cases, referred directly to hospital by themselves, without the intermediary of a general practitioner.

Hospital doctors treating their patients treat them as a family physician would treat them, following up the care themselves and visiting patients in their own home. Payment is made direct to hospital on a chit provided by the doctor, and Dr. Howel mentioned incidentally that since this method of payment had been introduced, combined with fixed salaries for doctors, the number of operations has dropped by 20 per cent.

Dr. Howel advocated the extension of this system, in which the hospital provides "comprehensive patient care" in a new sense of the words, on several grounds:

(i) Patients visiting their doctor in an out-patients' department have at their disposal *without delay* all the diagnostic facilities of a modern hospital, which could be a valuable instrument in preventing serious illness. He instanced a case in which 700 healthy executives and factory workers belonging to one firm, examined as the result of a charitable bequest, had had four minor complaints and ailments diagnosed per person, which were subsequently dealt with by the hospital.

In this connection he mentioned that a system had been worked out at the FFH by which a complete medical examination under every possible head could be made in three half-days. No patient was ever admitted to hospital for further examination unless he was already too ill to be treated as an out-patient, a situation which he felt should not be allowed to arise.

(ii) Maximum use of equipment and hospital personnel is possible under a system which allows the number of patients treated to be increased by adding ambulatory patients (out-patients) to bed patients.

(iii) There is no break in continuity between hospital and home care.

(iv) Physicians based on hospital can be kept up to date by being part of a teaching hospital. Dr. Howel maintained that all community hospitals could be developed as research and teaching hospitals. The distinction between first- and second-grade hospitals should be abolished.

Dr. Music, of Yugoslavia, read a paper on "Continuity of treatment during the out-patient-hospital-out-patient phase" whose impact was lessened by linguistic difficulties, but made it clear that as a result of the almost complete abolition of private practice, out-patient services are very expensive in Yugoslavia, taking the form either of independent institutions for the specialist treatment or of out-patient departments integral to hospitals. "Hospital specialists should have their part-time employment in the consulting rooms of the out-patient department," he said, to assure patients of continuity of treatment by the same doctor. Deviation from these principles would entail discontinuity, delay, duplication of diagnostic procedures and bad psychological effect, and the treatment would be less economical in terms of actual expenditure, lost working time, etc. He went on, "Continuity of treatment is of importance for the doctor as well because he becomes acquainted with all the phases of treatment. The hospital doctor, who was predominantly 'hospital minded' becomes 'patient minded' and social minded. The development of the doctor's responsibility to the patient as an entity and to the community is of great importance because it can become a further stimulus for the continuous care of the patient."

Here we have continuity used in a sense that is quite different from that used in Britain. Continuous care might almost be paraphrased as purposeful care—care designed to keep people healthy—as opposed to a hospital service called in only in case of breakdown.

An experiment has already been made in Aberdeen to test the feasibility of carrying out minor operations in the out-patients' department. Two young doctors in collaboration with the hospital authorities selected 166 cases as suitable: varicose veins, hernia, etc. Of this number 151 *preferred* to be treated as out-patients. After



Bed-sitting rooms over garages behind Cumberland Terrace

the operations they were retained for one day in out-patients' beds, and then sent home with full instructions about dressings and nursing care. After seven days they came back to hospital to have stitches removed. The experiment was entirely successful.

Dr. Davis, Senior Administrative Medical Officer, Oxford Regional Hospital Board, now MOH, concluded from this that the out-patients' department should be large and designed to keep as many people as possible outside hospital; laboratory and X-ray departments should be generous and planned for extension and special recovery beds should be attached to the out-patients' section.

As part of this movement he also suggested that diagnostic facilities for general practitioners should be provided in the out-patients' departments of the future. Unless this means that general practitioners are to have their consulting rooms in hospital, or in an outlying clinic when the former is not geographically possible, and to become in effect part of the hospital team, it is difficult to see what it means.

In the field of hospital planning, interest was concentrated on five main points, which have previously been largely covered in the AJ (special issue, 7/7/60). The movement away from specialised hospitals and the trend towards one general hospital providing medical care under several different headings: (1) psychiatric, (2) acute medical, (3) chronic medical, (4) geriatric. As a corollary to this, hospitals will be larger.

(2) The need to concentrate accident departments in area general hospitals, providing a 24-hour service and ready to deal immediately with cases which may require specialist, surgical treatment.

(3) Methods of reducing costs by saving labour. These will be generally familiar to AJ readers. Proposals covered labour-saving equipment, central supply systems (AJ 7.7.60) and what may be described as "labour-saving aids for the nurse"—such as closed circuit television, audio-visual aids, pneumatic tubes for conveying prescriptions, specimens, etc., from the ward to other parts of the building, and various automatic devices, which are being developed rapidly in America especially.

In discussion on this part of the programme, speakers from the United Kingdom stressed the importance of grouping non-medical services necessary to the running of a hospital—such as laundries, routine laboratory work and possibly catering—on an area or regional basis.

It was clear from the discussions and papers that every country represented was faced with the same problem: how to make available to an entire population the improvement in health and happiness made possible by modern science. Two bottlenecks hold this back. The first is shortage of money: the scale of operations when whole populations are provided for is such that it is quite beyond the capacity of private enterprise and here Great Britain's National Health Service leads the field. Necessary costs are astronomical and every new invention takes them higher; hence strictest economy is necessary if real benefits are to be available to everyone.

The second bottleneck is nursing staff, and as the need is chiefly for unmarried women temperamentally suited to this type of work, this shortage cannot be regarded as local or temporary. Hence automation which economises nursing staff cannot be dismissed even though it adds to the cost of hospital construction. This leads back to the need to extend the work of the out-patients' department to a degree that could not previously have been contemplated by responsible doctors. It follows that serious rethinking is necessary in every field of hospital planning and construction, where nothing can be accepted without question because it has worked in the past. Architects have a big contribution to make to this work.

AILEEN TATTON-BROWN

CROWN ESTATE

Conversion of Cumberland Terrace

The Crown Estate Commissioners' venture in luxury flat development was celebrated at a Press party on July 20 to mark the completion of the 16 flats in the south block of Cumberland terrace. When all the blocks and houses which form the Terrace are converted, nearly £750,000 will have been spent. Nash's superb speculative development is certainly worth that: the new block with gleaming black balustrades and precise stucco detailing looks magnificent.

The conversion posed immense problems in planning and structure for the architects Louis de Soissons, Peacock, Hodges & Robertson, and engineers R. T. James & Partners.

The flats are planned horizontally and are served by passenger and service lifts, whose machinery is in the basement to avoid roof structures. The original party walls had to be retained which somewhat restricted the planning; floors had to be concrete for sound insulation and they also contain withdrawable electric heating cables. But the weight of these floors meant that they could not be supported off the party walls but had to be carried on concrete columns and beams, with bored pile foundations. Thus the old party walls merely support the roof. The columns and beams are successfully concealed in the walls and floors. Flat plans are hardly ideal, being in the nature of a compromise. The mouldings seem to be watered down Regency for cornice or fireplace, presumably on cost grounds.

At the rear of the terrace the old mews buildings have been replaced with bed-sitting-rooms over garages. These buildings are quite out of scale and character with the fine architecture all around them.

TOWN CENTRES RESEARCH

£10,500 Nuffield grant

The Nuffield Foundation has offered to King's College, University of Durham, a grant of £10,500 to enable Charles F. Riley and Dr. Percy Taylor to direct research into the functions and development problems of town centres with a view to answering the following questions:

1. What functions are likely to continue to be centrally located in towns?
2. What would be the most efficient and æsthetically satisfactory arrangement of land uses and buildings required to discharge these functions?
3. By what administrative, financial and technical means can this arrangement be best achieved?

Mr. Riley and Dr. Taylor, who are both lecturers in the Department of Town and Country Planning at King's College and co-directors of Planning and Design Group of Newcastle upon Tyne (an organisation

engaged on planning consultant and other research work), estimate that the project will extend over three years.

It will be concerned with the nature and scale of contemporary changes in city centres arising from the increased mobility of goods and people, from the rising standard of living and from investment rates and potentials as well as from other social or political changes which call for new concepts and ideals to meet the demands of the future.

The project will involve a detailed examination of the main city centres of Sheffield, Newcastle upon Tyne and Leicester in their regional contexts.

IN COURT

Who is my neighbour?

A recent High Court Division has established that, if an architect on a site gives gratuitous advice to a workman who, in acting upon it, hurts himself, the architect is liable. In this article our Specialist Editor (17) Legal discusses the influence of this case in the law of liability.

If an architect, upon a building site, asked by one of the workmen about the practicability of carrying out certain operations, e.g. demolitions, there and then gives advice which a reasonable architect would not have given and, as a result, the operations are carried out so that they cause injury to the man, is the architect legally liable for the consequences of his carelessness?

Common sense might urge that he should be but until recent weeks, the answer of the majority of lawyers would have been a comforting negative.

Clayton *v.* Woodman & Son (Builders) Ltd. & Others is, however, now in the law reports and, though liable to appeal, the decision in this case indicates that the architect, in the circumstances postulated above, would indeed be liable.

English law has been reluctant to extend the limits of tortuous liability. "Who is My Neighbour?" was the headline under which *The Times* reported this case on July 6 and, though all men be brothers in a spiritual sense, the concept of neighbourliness in law, i.e. the degree of propinquity which makes a man legally liable for acts which cause injury to another, has been responsible for a complex and fascinating chapter in the English law of torts.

Of course, if one man makes a contract with another or is in a fiduciary relationship to him, a deliberate and artificial relationship arises between them, and acts inconsistent with its terms can be sued upon. But in the example posed above there would be no contractual relationship between the architect and a worker on the building site and the question is whether, independently of contract (and the special position where fraud is involved), a legal duty between such persons will nevertheless exist.

Many legal duties to take care do arise independently of contract for if you are near to another or near to his property there is a duty not to cause him personal injury or damage to property. This principle is illustrated in every highway accident which results in legal claims.

Again, if a man has a calling which requires special knowledge and skill it has been held, from very early times, that he owes a duty to those closely and directly affected by his work.

The legal writer Fitzherbert in 1534 declared that "If a smith prick my horse with a nail I shall have my action on the case against him without any warranty by the smith to do it well, for it is the duty of every artificer to exercise his art rightly and truly as he ought."

But the difficult problem has always been to define the limits of this duty. And limits there must be. For example, a careless statement in a book, or map, or chart, cannot be sued on by every user misled by it.

In 1893 in the case of Le Lievre *v.* Gould a surveyor surveyed works for a building owner and handed him certificates so that he could know the amounts he had to pay the builder. The owner chose to show these to his own mortgagees who advanced money on them instead of on the certificates of their own surveyor. These certificates were misleading and the mortgagees tried to show that the surveyor owed a duty to them as well as to his own client. They failed. Their relationship to the surveyor was one where the inspection of an intermediate person—their own surveyor—might reasonably be interposed and this factor was used as the test of a degree of legal "neighbourliness" which was too remote to give a cause of action.

The House of Lords, in Donoghue *v.* Stevenson in 1932, took the matter further. A girl sued the manufacturer of an opaque bottle of ginger beer because, she said, on consuming the beer the remains of a snail were revealed and she became ill. (She could not sue for breach of contract because there was no contract between her and the manufacturer.)

The House of Lords, by a majority, upheld her and declared that if an article is put on the market by a manufacturer so that the distributor or ultimate buyer will not discover by inspection any defects in it then the manufacturer has a duty to take reasonable care that the article is free from defects likely to injure health. In other words, there is then such a legal proximity between manufacturer and consumer that in law they are neighbours.

The recent case of Clayton *v.* Woodman & Son (Builders) Ltd. & Others involved physical damage which had resulted from a negligent statement. The plaintiff, a bricklayer, sued three defendants; his employers the builders; the South Western Regional Hospital Board, who employed the company; and, finally, the architects.

The hospital at Warnford, Exeter, had a stone gable, which was safely constructed, projecting above the roof close to where a new lift shaft was to be built. To construct the motor room it was necessary to demolish part of the roof near the gable and to cut a chase or groove in the side of the gable.

The plaintiff, a senior bricklayer, having spoken to a qualified architect, told another bricklayer to cut the chase in the gable wall. This was done and then the plaintiff, while cutting into a stone on one side of the gable, removed a small piece whereupon the gable toppled inwards, injuring him.

Mr. Justice Salmon found that the first defendants, the building company, were negligible in not shoring the gable and were in breach of duty to take reasonable care of their employee. They were also liable under regulation 94 (2) of the Building Regulations.

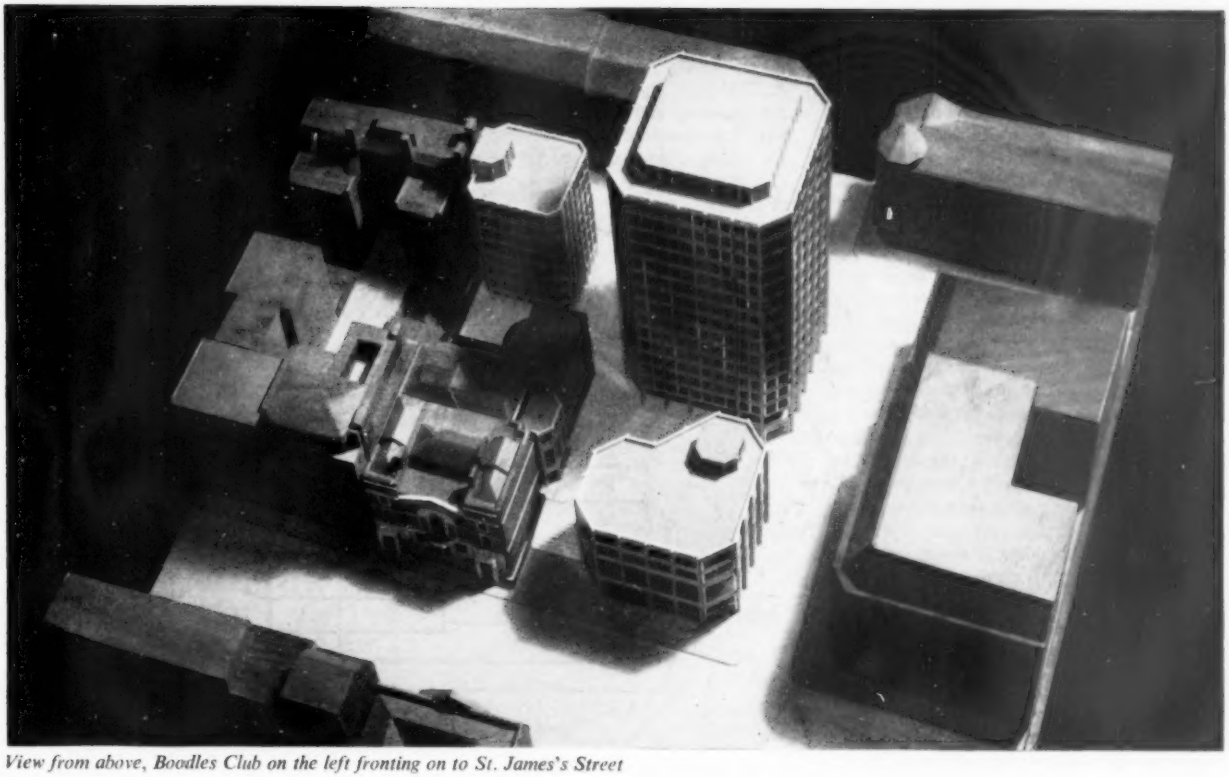
The Hospital Board were not liable for the negligence of the architects, nor were they liable under the Occupiers Liability Act, 1957.

The claim against the architects raised "a point of law of considerable importance and no little difficulty." During the conversation between the plaintiff and the architect the plaintiff asked the architect if the gable might be demolished altogether and urged his views upon him. The architect urged him to carry on and cut the chase, believing that it could be cut without shoring or strutting. He was mistaken. An ordinary architect using reasonable care and skill would have realised the extreme danger of cutting the chase without shoring the gable.

It had been submitted, declared the judge, that there was no contractual relationship between architect and builder and that neither did the law impose any obligation on architects to advise builders or their servants about their safety. But he examined the tests of legal "proximity" laid down in Donoghue *v.* Stevenson and the rule there expressed that an obligation not to injure extends to "persons so closely and directly affected by my act that I ought reasonably to have them in contemplation as being so affected when I am directing my mind to the acts or omissions which are called in question." Having regard to the exceptionally close relationship between the architect and the bricklayer on the particular facts of this case, the law imposed a duty on the architect to take reasonable care for the safety of the bricklayer.

The architect was therefore held to be in breach of this duty and the court also held that it was enough if the architect's negligence was simply by way of a statement. A careless statement causing financial loss might not be actionable—in view of the ruling in Candler's Case—but if it involved physical loss and the relationship of the parties was sufficiently proximate it would be. "I accept," declared the judge, "that this view adds illogicality to illogicality, but that seems preferable to enlarging the class to whom a remedy is denied."

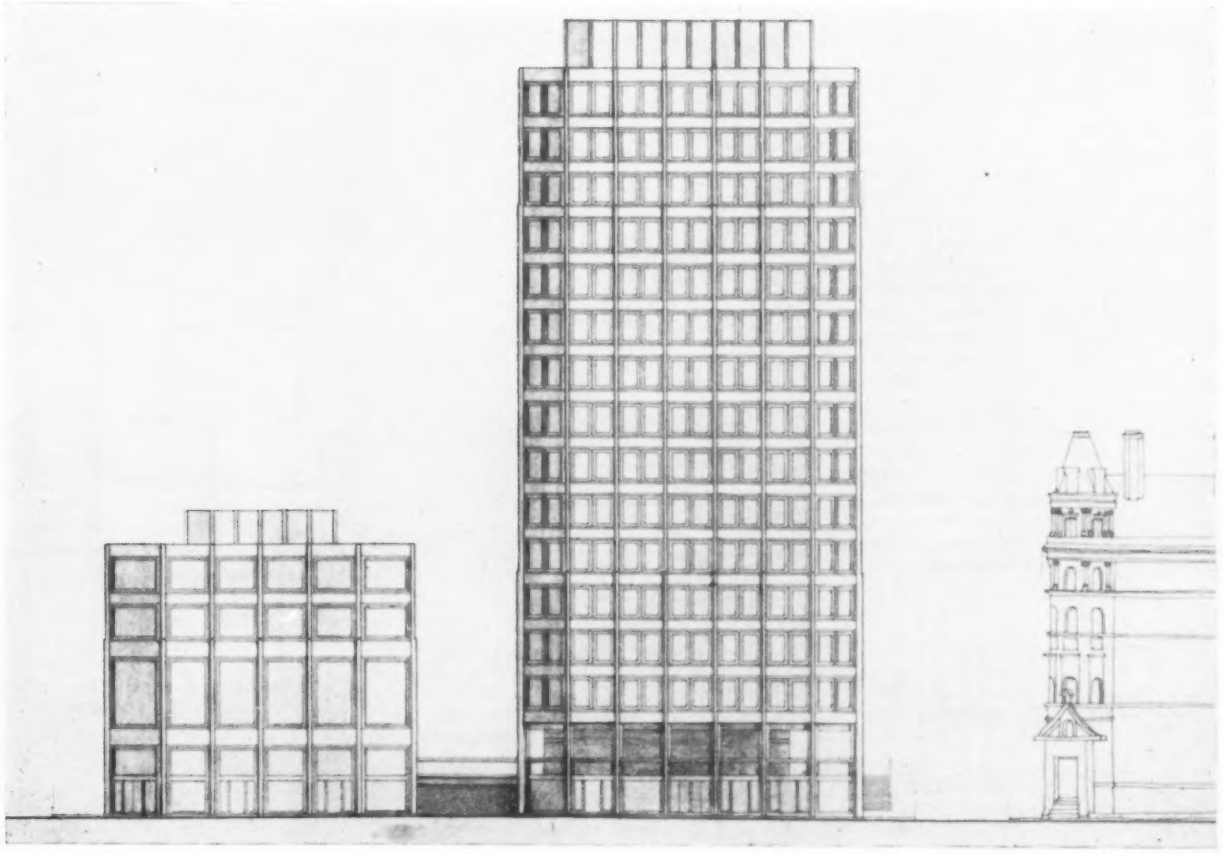
The decision may be upset on appeal but, subject to this, it carries a warning to architects. Had these instructions been given by this architect to the builders the latter would then have been interposed before the instructions reached the plaintiff bricklayer. Then the architect, the court declared, would have escaped liability, for the proximity in law between him and the bricklayer would not have been sufficiently close.



View from above, Boodles Club on the left fronting on to St. James's Street

New building for The Economist

Ryder Street elevation



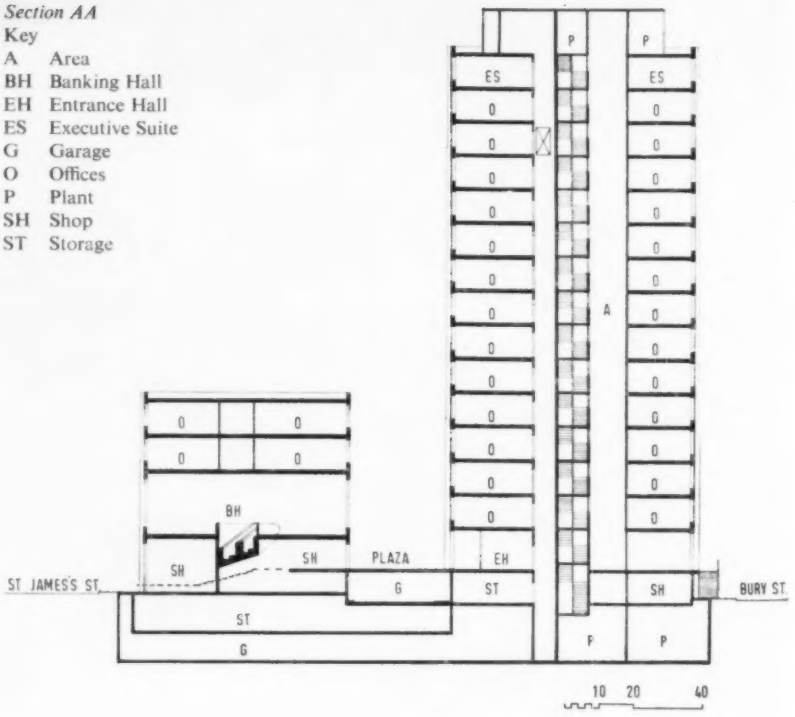
As reported in a previous issue, the design for the new Economist building by Alison and Peter Smithson has now been published. The Economist, in its editorial explanation of the project, makes it perfectly clear how this commission came about, the aim being to give an opportunity to a British architect whose work had not yet had the chance to become widely known. "This," it says, "was not conceived of simply as a piece of artistic patronage. The complications of modern construction produce the double result that the work of successful practitioners rapidly degenerates into salaried teamwork, and that it is very difficult for fresh ideas to break in. We thought we stood a better chance of getting a building thought out afresh from first principles by going to an architect who represented himself and not a large office." It adds that after a most careful enquiry, the Smithsons were appointed, with Maurice Bebb, who had been advising on the project from its inception, as an associate architect.

Just as with the building committee for St. Catherine's College, Oxford (who eventually picked Jacobsen), The Economist directors have thus examined and then turned their backs on the large offices in this country. How far the slightly ominously titled Economist Intelligence Unit were involved is not made clear; but perhaps the RIBA office survey team might care to study the opinions of such important and obviously intelligent clients before round-

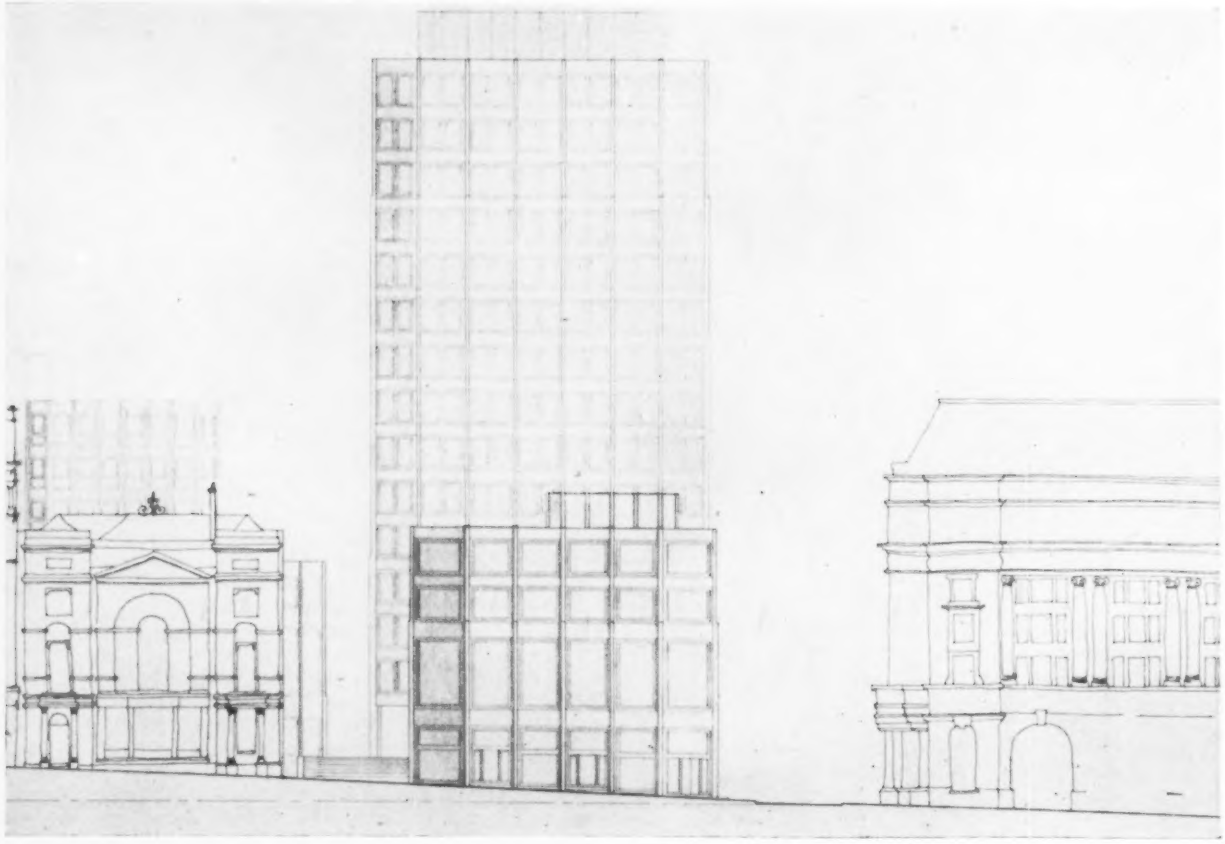
Section AA

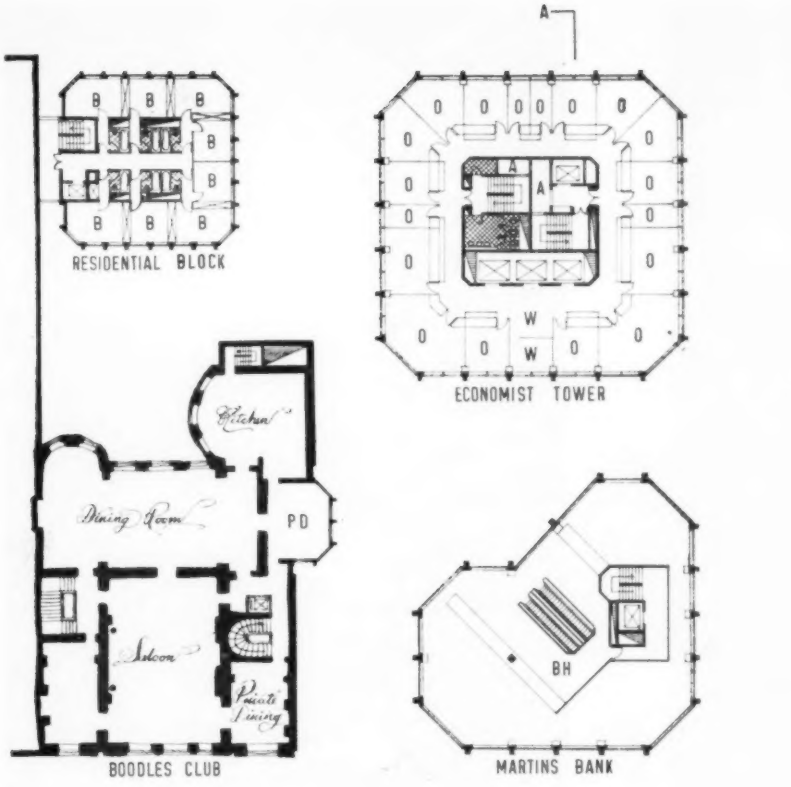
Key

A Area
BH Banking Hall
EH Entrance Hall
ES Executive Suite
G Garage
O Offices
P Plant
SH Shop
ST Storage



St. James's Street elevation





First Floor
Key
A Area
B Bedroom
BH Banking Hall
O Office
PD Private Dining Room
W Waiting Area

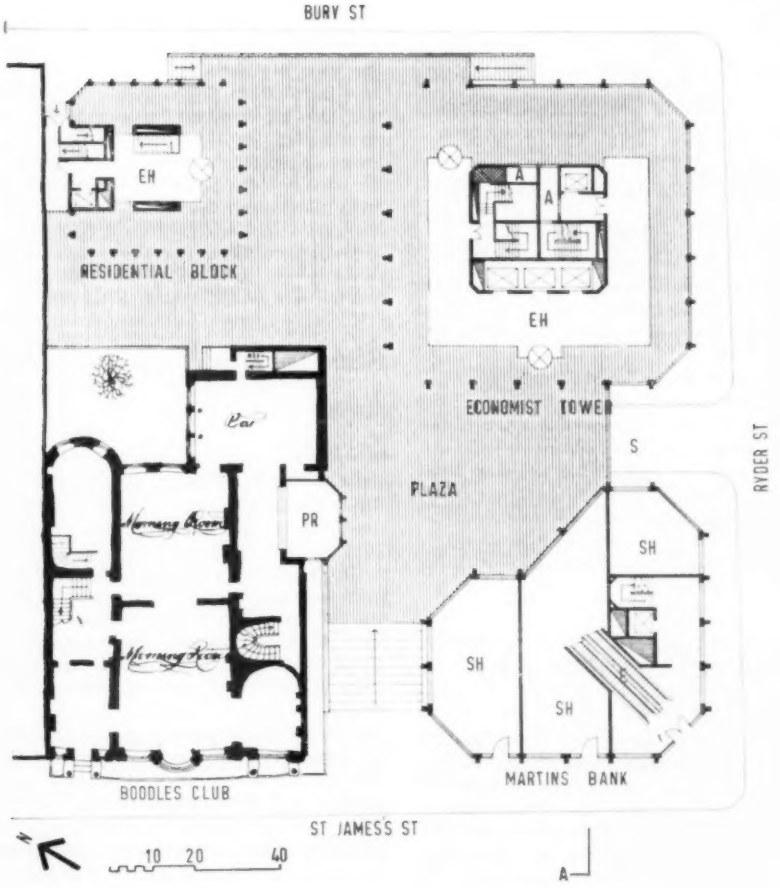
ing off their enquiries. The Economist's statement about large offices is obviously not universally accurate, but the profession might well investigate the reasons for its origins.

How far has The Economist succeeded in getting this "thought out afresh" building? Bearing in mind the diverse requirements, the architects have decided to provide three separate structures standing on a podium raised above the pavement level, with garage space underneath. This level forms a pedestrian *plaza* (perhaps *piattzetta* would be a better title), which is enlarged by setting back the faces of the buildings at this level. This method exploits the site to make it as open as possible within the 5 to 1 plot ratio.

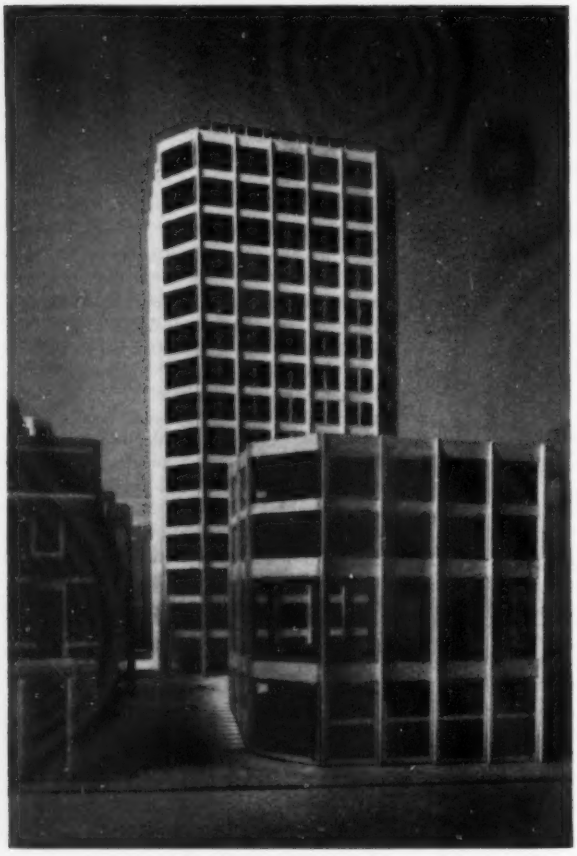
The building on St. James's Street, four storeys high, carefully continues the coping line of the adjoining Boodle's Club, and repeats the same pattern of accommodation by having a *piano nobile*, which will be used as a banking hall reached from pavement level by escalator. This block is based on a 10 ft. 6 in. module, which is not subdivided, with the aim of achieving a scale which matches that of the rest of St. James's Street. Behind this block will rise the Economist Tower, a sixteen-storey building mainly providing offices round a central core for lifts, stairs and lavatories, planned so that the maximum office depth is 18 ft. from the external windows. The top floor will be residential, and the ground floor (one level below the *plaza*) will house a canteen. This building will also use the 10 ft. 6 in. module, based on a two-man office, but in this case there are mullions to the windows at 5 ft. 3 in. to allow further subdivision.

The third block is a much smaller residential tower, seven storeys high, which will provide four floors of bedrooms for Boodle's Club with flats over. This building uses a 5 ft. 3 in. structural module. The scheme also includes improvements to Boodle's Club, comprising a ladies annexe, new staff accommodation, and a bay window on the south side.

The structure will be reinforced concrete, with flat slab floors spanning between the external T-shaped columns and the central service cores of each block. The blocks will be faced externally with Roach bed Portland stone, with anodised aluminium window frames carrying fixed double glazing. With the exception of the residential block, the scheme will be fully air-conditioned, with individually con-



Plan at Plaza level
Key
A Area
BH Banking Hall
E Escalator
EH Entrance
PR Plaza Room
S Service Entrance
SH Shop



Frontage to St. James's Street of the Economist project



Bury Street, looking on to plaza

trolled units under the windows, and extraction through the central cores.

The design therefore provides a very high standard of office accommodation, by breaking down the requirement into separate units, not only has it been possible to create the pedestrian *plaza*, but equally to avoid that type of layout, now increasingly popular, which relies on the use of permanent artificial lighting for offices. Some doubt remains, however, that the limited area of the site forces the buildings to be rather tightly packed, in places less than 30 ft. apart, thus tending to overshadow each other; equally that the *plaza* is on a very small scale, although the set-backs at pedestrian level on the two towers plus the splay on the east side of the bank block manage to relieve it.

The expression of the building can be regarded as something of a continuation by these architects of the thinking behind their Hunstanton school. Here they have, they state, separated structure from external expression by having the concrete stanchions inside articulated from narrower vertical bands of Portland stone outside, which are not a thin veneer, but quite chunky and completely non-loadbearing. This parallels the use of semi- or completely non-structural steelwork on the outside of Hunstanton; both techniques are of course Miesian in derivation, so too are the steps forward in the facades down the various blocks. Fortunately, ever since Mies put a bustle on the back of the Seagram building, things have not had to be quite so frigidly reduced to "no-architecture" classicism by his devotees; this project, in fact, will have the fresh character that the Economist said they were after.

MOHLG

New Towns Commission, appointed day

The Minister of Housing and Local Government has named October 1 as the date on which the Commission for the New Towns is to come into being under the New Towns Act, 1959.

This Act provides for the establishment of the Commission and for the transfer to it of the assets and properties of the new towns, now vested in the development corporations, which will be wound up as each town reaches the stage at which the corporation's task is regarded as virtually completed.

The first towns to be handed over will be Crawley and Hemel Hempstead, early in 1962.

Birmingham, new town investigation

The Minister of Housing & Local Government, has announced that he has invited A. G. Sheppard Fidler, City Architect of Birmingham, to carry out an investigation into the possibility of developing an area around Dawley, Shropshire, as a new town for relieving congestion in Birmingham and the West Midlands.

The Birmingham City Council has agreed that the City Architect shall carry out this investigation on behalf of and with the assistance of the Ministry. The reason for the special investigation is the presence of many old mine workings in the area. Mr. Sheppard Fidler will examine the possibility of building a satisfactory new town there and will also consider the likely additional cost because of the nature of the site.

RSA

Royal Designers for Industry

Three new appointments to the title of Royal Design for Industry (RDI) have been announced by the Royal Society of Arts. They go to:

Stefan Buzas, FSIA, the exhibition and interior designer, who is a partner in the firm of James Cubitt & Partners;

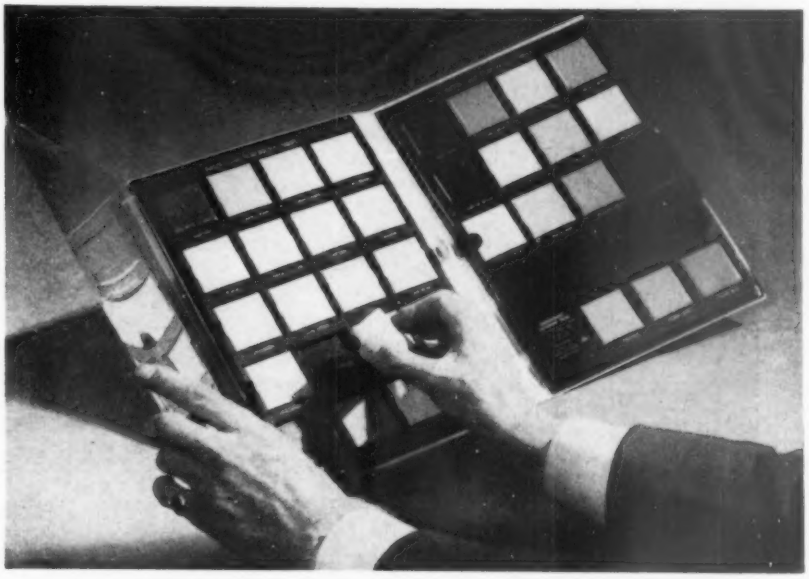
Jack Howe, FRIBA, FSIA, for his work as design consultant to the British Transport Commission, for London Transport, and the GPO;

and to Marcello Nizzoli for his work for the Olivetti Company since 1940, which included the design of the "Lettera 22" portable and the "Lexicon 80" typewriter, which is permanently exhibited in the Museum of Modern Art in New York as an outstanding example of industrial design.

technical section

THE INDUSTRY

This week Brian Grant describes a compendium of ceramic tiles, translucent roof sheeting, a double opening window frame, information about aluminium, plastic pipe clips, an asbestos finish, double glazed windows, radiator valves, and cast iron drainage equipment





Above, compendium of Richards tiles
Left, Hope Emery double opening window frames

Ceramic tile compendium

Richards Tiles have certainly made a very considerable effort to supply the designer with a full range of samples. The result is a compendium of six folders containing altogether something like 150 miniature tile samples. The folders are to A4 size and are bound in different coloured plastic covers to distinguish the various ranges, and pack into a large binding case. This must have been fiendishly expensive to produce, but where a product is judged by surface texture as well as appearance it is probably the only way to do the job properly. An excellent effort, which has certainly succeeded. (*Richards Tiles Ltd., Tunstall, Staffs.*)

Translucent roof sheeting

Marley are now producing corrugated pvc extruded sheeting for translucent roofing and are selling it under the name of Marleyglaze. Two profiles are being made to begin with, one with a nominal width of 30 in. and having 10½ corrugations to match standard 3 in. asbestos: the other, to match Big Six, has 8 corrugations and a nominal width of 43 in. This will be available later in the year, when both types of sheet will be produced in lengths from 3 to 10 ft. by 6 in. increments. The thickness of the sheet is $\frac{1}{16}$ in. and it weighs about ½ lb. per square foot.

Marleyglaze is also available in a cross corrugated version in rolls up to 30 ft. long and in widths of 31½ and 48 in. The corrugations run across the width of the sheet rather than down its length, so that lighting can be provided in continuous runs.

The material is tough and durable, and is claimed to be unaffected by weather and industrial fumes. Light transmission of the natural translucent grade is 82 per cent, and the material is also made in red, green, yellow and blue. Fixing is by bolts, nails or screws, and it may be easily drilled or sawn to size. Price will be about 4s. a square foot irrespective of colour. (*The Marley Tile Co. Ltd., Sevenoaks, Kent.*)

Double opening window frame

The illustration on the left shows the Hope Emery double opening window frame, which has been designed to allow glazing, painting and cleaning to be carried out from inside the building. Each opening consists of two casements hinged together, one opening outwards in the usual way but being hinged to the second frame, which opens inwards. The windows are made in softwood and in a variety of hardwoods. (*Hope Emery Ltd., Waterfall Lane, Old Hill, Staffs.*)

Information about aluminium

British Aluminium are embarking on a major campaign to provide architects with full information about the uses of alu-

HOPE'S standard windows

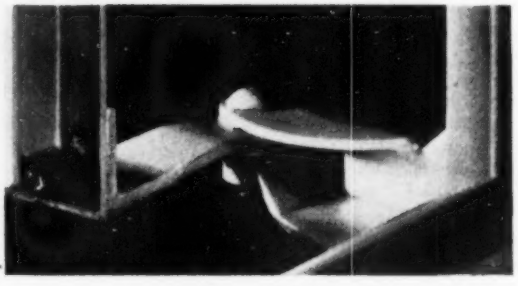


CANTERBURY COURT, South Kilburn
Arthur M. Foyle, Ph.D., B.A.(Arch.), F.R.I.B.A., Architect

John C. Morris, B.Sc., M.I.C.E.
Borough Engineer & Surveyor, Willesden

Long Life – minimum maintenance
First-class Fit – bronze fittings
No rust – hot-dip galvanized finish

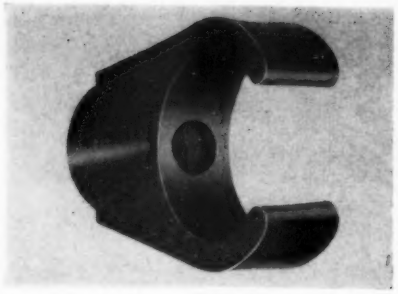
Patent friction-held cleaning hinge holds casement firmly open in any position – no stay clutters the cill

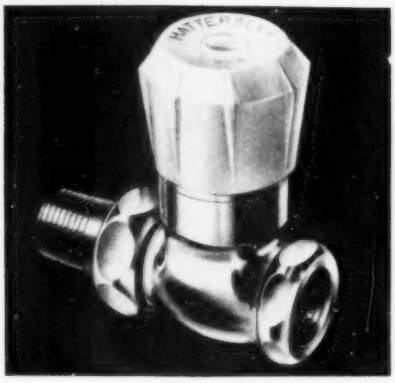


Send for List 356

HOPE'S WINDOWS
The Name Guarantees

HENRY HOPE & SONS LTD
SMETHWICK, BIRMINGHAM
LONDON: 17 BERNERS ST., W.1







Top left: Maclow pipe clip
Left: Hattersley radiator valve

Above: Gerrard double glazed windows

minium in building. The result is an enormous binder which contains information about most of the company's products, and there is a further very useful section of A4 SFB classified data sheets on such things as windows, curtain walling, patent glazing, deck, and other subjects, giving the names of the individual manufacturers whether they use BA metal or not. This seems an enlightened policy, but it is possible that some offices will extract the data sheets and file them on the SFB system with other leaflets on the same subject. This would be a quite logical thing to do, for architects presumably think first of the end use and then consider the material afterwards. The manual has been prepared with the assistance of Bruce Martin, and one wishes that more manufacturers would take this elementary step of asking the customer what he wants instead of giving him what they think he ought to need. The manual is, however, only part of a BA building service, which includes a supply of addressed postcards for anyone who wants further information. It is hoped every architectural practice in the country will have a manual by the end of October, and it is also intended that the manual shall be kept up to date by the addition of further information sheets as they become available. The scheme in itself seems excellent, but like all other schemes its success will depend on the promptitude and accuracy with which information is supplied. (*The British Aluminium Co. Ltd., Norfolk House, St. James's Square, London*, SW1.)

Pipe clips

The illustration above shows the Maclow pipe clip, made from propathene and being marketed by Yorkshire Imperial. The clip is intended primarily for plastic pipes in diameters from ¾ to 2 in., but it is equally suitable for pipes in other materials. Fixing is by a single screw and the pipe is snapped into position and firmly gripped. The clips are particularly suitable where corrosion resistance or electrical insulation is needed and do not, of course, suffer from electrolytic action. Standard finish is dark grey. (*Yorkshire Imperial Metals Ltd., PO Box 166, Leeds.*)

White finish for sprayed asbestos

Limpet sprayed asbestos, applied by a Turner & Newall subsidiary, is now available with a white finish which gives a uniform appearance without changing the sound absorption properties of the material. The finish is readily cleaned and obliterates any previous colour when used for redecoration. (*J. W. Roberts Ltd., Horwich Bolton, Lancs.*)

Double glazed windows

Gerrards the Manchester contractors have for many years had a large joinery works which is now producing an interesting range of windows and sliding doors. The illustration above shows the Unitas type 10 window, which is double glazed and locked with an espagnolette bolt in the bottom rail and includes a device to limit the opening to 22° to prevent unauthorised entry. This type can be made with a maximum area of 53 sq. ft., or 64 sq. ft. if only single glazing is required. There is another type in which the areas are 65 and 95 sq. ft. In both types it is possible to build a ventilator unit into the head of the frame.

There is also an interesting lifting and sliding door which is fully glazed to just above floor level. In its lowered position the sliding leaf rests on a sill rail and can be left in any opened position, when closed the door is weatherproofed by a rebate in the head and by sealing strips on door stile and mullion. (*J. Gerrard & Sons, Ltd., Swinton, Lancs.*)

Valves for hot water heating systems

The Delflo range of radiator valves is produced in both straight and angle designs in sizes from ¾ to 1 in. for use on low and medium pressure hot water heating systems. Valve bodies and tail pipes are in cast bronze with a natural or chromium plated finish. Valve wheels are in Delrin, a Du Pont plastic which is ivory coloured and slightly translucent. The standard valves can be converted to lockshield types, and have a concealed indicator under the shield so that they can be accurately adjusted. (*Hattersley (Ormskirk) Ltd. Ormskirk, Lancs.*)

Cast iron

There has been such a spate of plastic rainwater and drainage goods announced during the past weeks that it is almost a relief to come across a catalogue of anything so ordinary as cast iron. Three lists from L & P Developments show rainwater, soil and drainage goods, manhole covers, and duct covers and frames. All the lists contain fully dimensioned drawings of the standard castings most commonly used, though many other patterns are available. One must register a certain amount of disapproval for three lists printed in three different sizes, none of them A4, but the information is useful and may perhaps fit into some people's filing systems. (L & P *Developments Ltd., Selsdon Road, South Croydon, Surrey.*)



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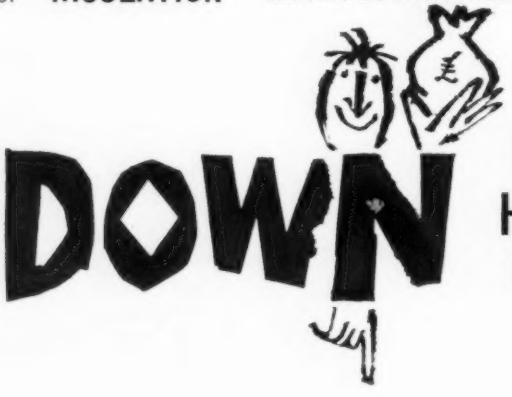
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Ri4

13.145 materials: timber
PLYWOOD

Plywood. Published by the Timber Development Association. Price 5s.

This revised edition of the TDA booklet first published in 1958 forms a comprehensive reference and guide to plywood.

The "properties" analysis shows the interesting potential of a material that compares favourably in its strength:weight ratio with other constructional materials, at the same time possessing qualities of sound and thermal insulation and fire retardance. The manufacturing process is clearly presented, maintaining that wet or semi-dry cemented plywoods are inferior to those produced by the dry-cemented process in which the moisture content of the veneers is controlled relative to the adhesive to be used. It is important in the structure of the laminations that the face and back veneers should be of the same species, or have the same physical properties.

The variety of adhesives are presented showing characteristics and uses and reference is made to BS 1203:1954, and BS 1455:1956. The ambiguity of the term "resin bonded plywood" is pointed out specially in respect to plywood used for external purposes. Further reference is made to BS V3, V35 and 1088, covering the ambiguities that may arise.

The convention of dimensioning plywood sheet is explained. Plywoods with low density core construction such as blockboard, laminboard and battenboard, composite boards, facings, moulded plywoods are discussed. Protection against weather and mechanical damage and enhancing the decorative features of the wood are the basic problems concerned in the section on finishes. Fire retardant elements are also considered.

The structural potential of plywood is gained by using the sheer strength of the vertical plane as in built up beams with plywood webs, stressed skin panels, shell roofs and form work. Further advantage can be obtained by varying the cross section to conform with the load requirements. The tables and appendices make an invaluable reference for any designer in plywood. It is a most stimulating publication.

Ab8
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23.236 heating and ventilating
ELECTRICAL UNDER-FLOOR HEATING

The Heating of Buildings by Off-peak Electricity Supplies. A Technical Report Published by a Committee of the Heating and Ventilating Research Association. Journal of the IHVE. May 1961.

Despite the increasing number of successful electric floor heating installations, there has always been considerable opposition to its acceptance by heating engineers based on two major discrepancies between the theory of operation of heating systems and current practice.

These are as follows:—

1. An off-peak installation is switched on for at most 15 hr. out of every 24, so that the installed load should apparently be 24/15, or 1·6 times the hourly loss calculated by the standard method. Normal practice has been to install anything from 1·1 to 1·4 times this hourly loss.

2. Floor heating installations have such a long time lag that the building is heated more or less continuously. The seasonal consumption on this basis ought to be anything up to 3,000 units per kW. of losses calculated by the standard method. In fact, most designers claim something like 2,250 units per kW. of losses, and less in some cases.

Some heating engineers dealt with the situation by ignoring it, and the most notable example of this kind was the book "Central Heating in Your Home," published last year by the Institution of Heating and Ventilating Engineers which gives figures for the consumption of floor heating installations consistent with currently held theory, but much larger than currently observed results.

However, evidence became so strong that the Heating and Ventilating Research Association decided to set up a committee to study the question. This committee has just issued its report and its conclusions are as follows:—

1. Floor heating installations do work with loadings very much less than would be expected at first sight.

2. The consumption figures are very much less than would be expected at first sight.

In other words, floor heating is not a confidence trick. It is about time this was said firmly and with authority.

They suggest the following reasons to account for the discrepancy:—

3. Hourly heat losses as calculated by the standard method give results that are possibly 10 per cent too high under extreme conditions of temperature, and as much as 20 per cent too high averaged over the season.

4. The average ventilation rate in most buildings is less than that normally assumed for design purposes, and in floor heated buildings it is lower still.

In other words, if a designer works out the heat losses from a space, including ventilation losses, by the standard method, adds on 25 per cent and installs the resultant loading in the floor, he may in fact be installing 60 per cent or more wattage than the real losses from the space require. This removes the discrepancy between the load installed and the load theoretically required to maintain comfort.

5. Normal estimates of running costs ignore waste heat in the building, from lighting, cooking and from the occupants.

If one therefore takes the total heat lost from a building over the season, and deducts from it the waste heat input, which may be up to 25 per cent of the losses, the difference gives the heat which must be supplied by the heating installation. If this figure is divided by the real hourly losses, which are less than the calculated ones, a figure of the order of 3,000 units per kW. is then obtained.

This removes the discrepancy between theoretical and observed running costs. QED.

Now we come to the strangest part of the story. If the standard method of computation of heat losses has been giving results that are much too high all these years, surely the running costs of conventional solid fuel heating appliances ought to have been much lower than the estimates which have been worked out using the same figures. However, it now appears that the seasonal efficiency of these appliances is not the 60-75 per cent which has usually been assumed, but something much nearer 45 per cent, so that the error on one side of the column has more or less cancelled out that on the other.

We may add that this is little more than an assumption, since one can only estimate the seasonal efficiency of such an appliance by taking the ratio between the calculated loss from the building and the calorific value of the fuel consumed, although we understand that there is some additional evidence to support this figure of 45 per cent.

This is all very interesting and it was about time the discrepancy was cleared up. Let us hope that we will hear no more of the "Useful Therms" basis for comparisor between the costs of different fuels until the tables have been recalculated.

The above points are those that will cause the greatest joy to the electrical industry. The report also contains some sensible, if not startlingly original, observations on the design of buildings which are to be provided with floor heating, and some useful technical appendices. The most interesting is by Danter who has worked out a formula for calculating the temperature drop in a floor-heated room during the day when the current is switched off. This puts the design of floor heating installations on a proper scientific basis at last.

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7 PRACTICE

working drawings 3

Robert Alexander concludes his series of articles* on working drawings by recommending a suitable method of dimensioning and discussing the use of schedules and type details

* Previous articles : June 15 and July 5, 1961

Dimensioning of drawings

(a) *Size of figure*

Figuring should always be as large and distinct as possible. A soft pencil should be used (to ensure a bold print), or the draughtsman may prefer to use a fountain pen of some description. It must always be remembered that, under site conditions, figuring and lettering can become indistinct due to poor quality or fading of the print, creases in the print at folds, dirt caused by workmen leaning on it or even, in the case of small figures, the poor eyesight of the workmen.

I should like to put forward the following recommendations: (i) That there should be a distinction between the main setting out dimensions and other dimensions for internal partitions, etc. This can be achieved by making the main dimensions in larger lettering, and perhaps using ink if necessary.

(ii) Sizes should be as follows: Up to, and including, $\frac{1}{4}$-in. scale:

For main setting out dimensions, a $\frac{1}{8}$-in. sectional backing sheet to be used.

For other dimensions, particularly internal where space is more restricted, 1/10-in. sectional backing sheet to be used.

(iii) Over $\frac{1}{4}$-in. up to 1-in. scale:

For drawings to these scales only one size will be required, and $\frac{1}{8}$-in. sectional backing sheet should be used.

(iv) Dimension figures should be placed immediately above the corresponding dimension line in a central position.

(v) Dimension figures should always read from the bottom or right-hand edge of the drawing.

(b) *Termination of dimension lines*

BS1192 suggests that arrow heads with sharp points, or dots, should be used. I have found these are not reliable, since very often the draughtsman can take his arrow over too far on to a different line. Dots, too, are not precise enough.

On the site the following methods are the most acceptable:

(i) Arrow with a distinctly defined point, thus:

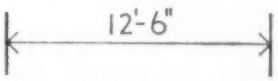


Fig. 1

(ii) A ruled diagonal centred through the intersection line, thus:

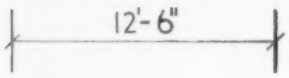


Fig. 2

I suggest the second method can be carried out more rapidly and uniformly by the draughtsman and should be generally adopted. It should be noted that this is standard continental practice.

(c) *Responsibility and checking of dimensions*

I have found the most common fault in contract drawings is discrepancy in dimensions, and site agents feel sizes are not sufficiently checked before they leave the architect's office.

A mechanical aid could be adopted for working out and/or checking of dimensions. There are many small machines on the market whose cost should not be out of reach of the normal office. I feel certain that not only will there be no wrong dimensioning, but that it would soon pay for itself by material savings in time.

(d) *Finished or hard sizes*

Dimensions should always be to hard sizes, unless otherwise stated.

Very often difficulties do arise when dimensioning internal prefabricated partitions, and I suggest that the architect should note if the dimension is not finished to the hard, by using the following abbreviations, and always reading from left to right:

Fig. 3 *i.e.* finished to hard.

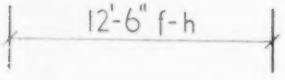


Fig. 4 *i.e.* hard to finished.

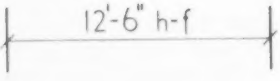
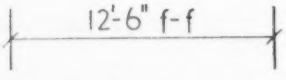


Fig. 5 *i.e.* finished to finished.



If none of these is used the size is, of course, a hard size.

(e) *Dimensioning the superstructure*

Fig. 6 illustrates how the dimensioning for a small house may be done. Figures are large and clear, termination of lines is distinct and there is no needless repetition of dimensions. Dimensions should run from the outside edge of the wall to the centre line of dividing walls as shown.

If elemental drawings are used and grouped as suggested in fig. 1, page 888, of the first article, the main dimensioning would be on the drawings in group WD2, *i.e.*, Foundations and Drainage (Substructure). Thus it would not be necessary to dimension the superstructure drawings as shown, since the main outlines have been established, and all that is required is to dimension the external openings in the superstructure.

(f) *Dimensioning of openings in the superstructure*

As stated, the only dimensions required on the superstructure drawings should be the dimensions of window, door, archway openings, etc., and if the architect wishes to combine the fitting out stage on these drawings, dimensions of internal partitions and doors will be included.

It has always been standard British practice to dimension windows, doors, etc., on the external walls, from jamb to jamb in "daylight" sizes, fig. 7. On the other hand, Scandinavian practice is to dimension from centre to centre of window or door, fig. 8. While this system may not be suitable for all types of job, it certainly is useful for the type of job, built in brick, where small jamb to jamb brick dimensions are a feature. On the job, the site agent would prepare his brick "rod" and work out his jamb to jamb dimensions from that and, in nine times out of ten, the architect's dimensions will require altering. If he is given the information as shown in fig. 8 he can then work out suitable dimensions for himself. Of course, as the architect has worked his scheme along he should be designing to suit brick sizes wherever possible, thus avoiding expensive cutting (this applies particularly at corners). On the contract drawing he then dimensions from centre to centre of windows thus giving the builder the little leniency he requires.

(g) *Dimensioning of internal partitions and openings*

Dimensioning of internal partitions always seems to give more trouble than dimensioning the superstructure. The main fault, I believe, is that the draughtsman forgets the simple fact that the superstructure is already up by the time the fitting out begins, and he covers the plan with repetitive sizes. A second fault is that the many types of partition in use today encourage an inconsistency in sizing in that the draughtsman is never sure to dimension to the finished surface, or to the hard.

While it is difficult to lay down hard and fast rules to follow, it is possible to set out a few suggestions for the dimensioning of internal partitions. Firstly, as with all aspects of dimensioning, if there is any doubt whatever, the draughtsman should lay a sheet of sketching tracing paper over his drawing and make a few trials, always thinking in terms of operations on the job.

Other recommendations are:

(i) If the dimensions are to the finished face this should be stated, reading from left to right (figs. 6 and 9).

(ii) Very often the simplest way is to dimension to the centre line of partition line. This leaves no doubt of finished or hard sizes and also, if, at a

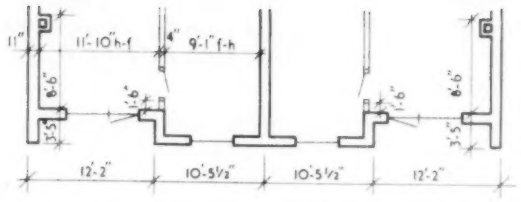


Fig. 6 [Scale: $\frac{1}{8}$" = 1' 0"

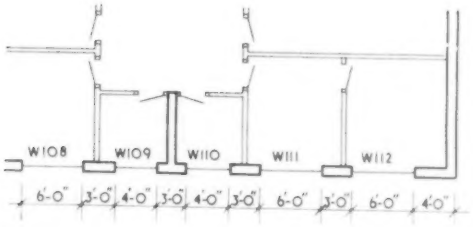


Fig. 7 [Scale: $\frac{1}{8}$" = 1' 0"]

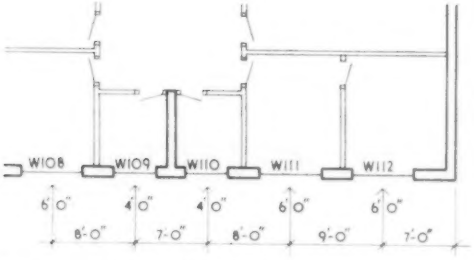


Fig. 8 [Scale: $\frac{1}{8}$" = 1' 0"]

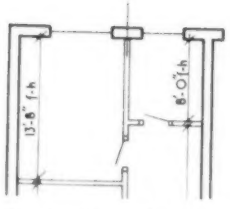


Fig. 9 [Scale: $\frac{1}{8}$" = 1' 0"

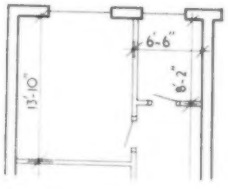


Fig. 10

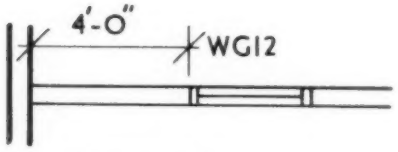


Fig. 11 [Scale: $\frac{1}{4}$" = 1' 0"]

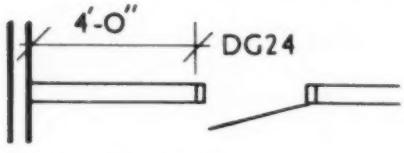


Fig. 12 [Scale: $\frac{1}{4}$" = 1' 0"]

later stage, the type of partition is to be changed, there is no altering of dimensions to be done.

(iii) Only give dimensions which are necessary. Fig. 9 shows a partition centred on a brick pier; there is no need to size this and all that is required is to show that it is on the centre line. As illustrated. Fig. 6 shows a partition which is obviously to be constructed to line through with a brick face and, provided this is clearly shown on the drawing, dimensions may not be required.

(iv) If the architect has a "preferred" room dimension, he should give this size only. Fig. 10 illustrates an example of this. The 6 ft. 6 in. dimension has been worked out to take a fitment and, by stating this size only, the partition will be measured from the inside cross wall as required and not from the outside wall as may be done if the other room dimensions were given.

(v) Finally, openings in internal partitions can be dimensioned as illustrated in figs. 11 and 12. There is no need to give the door or window size since this is given in the schedule. If the architect wishes a door to be placed centrally on a wall, say on a corridor and wall, then he can draw on the wall side in question and add centre line.

Use of schedules

It goes without saying that the arrangement drawings must be free from clutter. As much information as possible regarding the following should be expressed in schedule form:

(a) Windows and doors.

(b) Floor, wall, ceiling and skirting finishes and constructions.

(c) Roof finishes or constructions.

(d) Decorative finishes.

(e) Concrete mixes, screeds, etc.

The numbering of windows, doors, rooms, etc., which should be adopted was discussed in the last article.

Pro forma schedules can be prepared for room finishes, windows, etc., from which a stock of translucent true-to-scale negative copies can be built up. These can be quickly filled in either for co-ordinating the team's work in the preparation of drawings or for actual contract documents, and dye-line copies can be obtained as required.

There is no need to set out in this article methods of setting up *pro forma* schedules since the subject was fully covered by Gauldie and Wright in their AJ articles.* However, several practical requirements must be considered in their formation if they are to be fully effective, and I am in agreement with the main principles set out by Gauldie and Wright, namely:—

(a) They should be the same size as the working drawings, since they are used as supplements to drawings and they require more space than foolscap allows anyway.

(b) Their layout must allow plenty of room for

* AJ, January 8, 22, 29; February 5, 12, 19, 1959

making entries, since cramped lettering is a sure source of error and omission.

(c) They should be designed to facilitate cross reference to other drawings. For example, it may be possible to include in the schedule a key to standard skirting types used in the office, thus eliminating cross reference at the assembly stage.

(d) They must not be over elaborated and things which cannot normally be defined or selected at a very early stage, *e.g.*, paint colours, should not be included.

Use of type details

The present day need and development for very full detailing has not been confined to this country. The Scandinavian countries in particular have met this challenge by the universal systematisation and clarification of standard details which can be used for the normal type of job. Thus the architect's time to draw out run-of-the-mill solutions can be re-directed to problems which better deserve it.

The "type" details should not be confused with the kind of detail which acts rather as an aid to design. When working out a problem it is always useful to see at a glance a range of details for the same type of problem which has been found to work well, thus preventing the solution being needlessly worked out quite independently on different jobs and perhaps without the benefit of past failures. Many offices, in addition to using the working details published by the weekly architectural journals for this purpose, form their own library of their most successful and interesting details solutions.

The "type" detail, on the other hand, is a drawing which can serve repeatedly on run-of-the-mill jobs. The appropriate detail is simply selected; a TTS translucent negative made from it on which unnecessary data can be deleted or marked off, and on titling, the drawing is then ready for issue to the job. This practice is widespread in Scandinavian countries, and is also used by architects of international fame and standing, such as Richard Neutra and Marcel Breuer. In this country, Gauldie and Wright, guided by Scandinavian practice, have developed the use of the type detail to a high standard. Here again their technique is fully described in their AJ articles and it is only necessary to state briefly their recommendations:—

(a) Don't type anything unless you use it recurrently, know that it works, and find you cannot obtain it simply by BS reference.

(b) Don't confuse "type" with overall size. The whole object of the exercise is to save work without accepting the restrictions imposed by overall standardisation. For instance, by typing only the sections of the components of a window, the same type detail allows whatever variations of size, proportion and division as you want for any specific job.

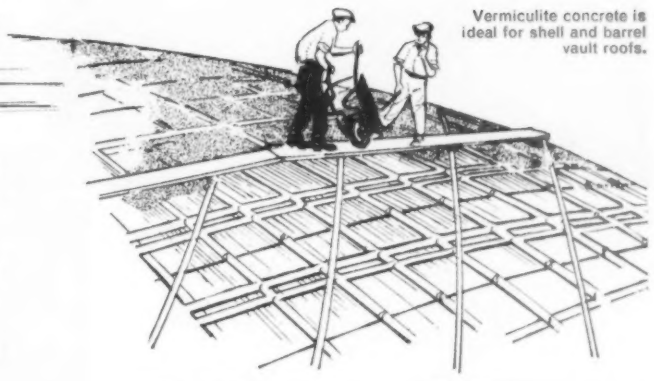
(c) Code the types so that the maximum possible number of types and variations can be shown on a single sheet. (Preparing and codifying are the hardest part of the whole process and take a lot of hard thinking.)

(d) Set out the sheet so that all necessary information can be put on the translucency in the clearest possible manner by: (i) deleting; (ii) ringing; (iii) adding figures where necessary.



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Vermiculite Concrete
'k' value = 0.65—1.3 BThU
Density 22—45 lb/cu. ft.

Vermiculite Plaster
'k' value = 0.90—1.3 BThU
Density 30—45 lb/cu. ft.

Loosefill Vermiculite
'k' value = 0.43 BThU
Density 4—8 lb/cu. ft.

A new and comprehensive handbook is available on request from Mandoval Limited, Barrington House, 59 Gresham Street, London, E.C.2. Tel: Metropolitan 9101, who, under the management of the Rio Tinto Mining Group, are world distributors of vermiculite ore.



Loosefill vermiculite is recommended for domestic insulation.

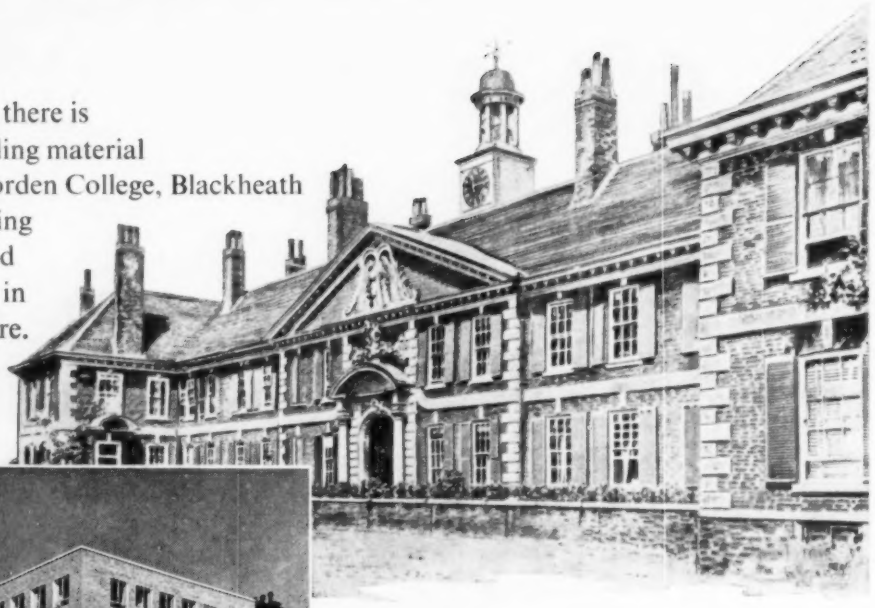


LIGHT—INSULATING—FIRE RESISTANT

VERMICULITE

FOR BETTER ROOF SCREEDS, FLOOR SCREEDS, PLASTERS AND LOOSEFILL

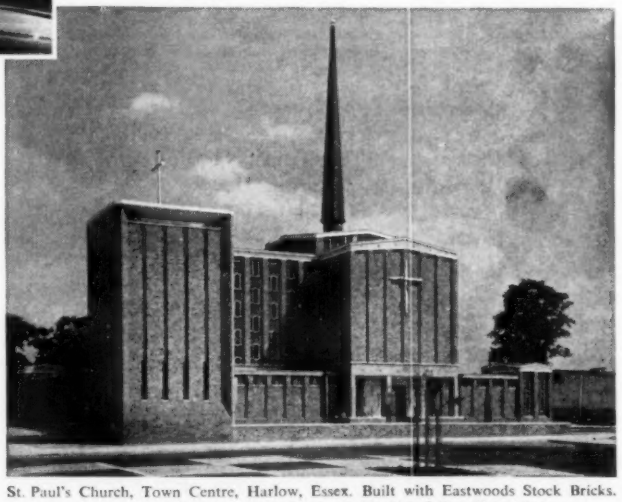
For sheer, lasting beauty there is no more versatile building material than the Stock Brick. Morden College, Blackheath provides an outstanding example of bricks used by Sir Christopher Wren in traditional architecture.





London Bible College, 19, Marylebone Road, N.W.1. Built with Eastwoods Stock Bricks. *Architect:* William Ryder, A.R.I.B.A., A.M.T.P.I., Dip. T.P. (Lon.) *Contractors:* Messrs. John Laing and Son Limited.

To-day Stock Bricks play an important part in the interpretation of the architect's conception of a modern office block, contemporary church or educational centre.



St. Paul's Church, Town Centre, Harlow, Essex. Built with Eastwoods Stock Bricks. *Architect:* Messrs. Humphrys & Hurst. *Contractor:* Hosking & Son (Essex) Ltd.

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THE BUILDING EXHIBITION

Olympia London
15-29 November 1961

See Our Exhibit

SfB No. B
UDC No. 651:69

Contract administration

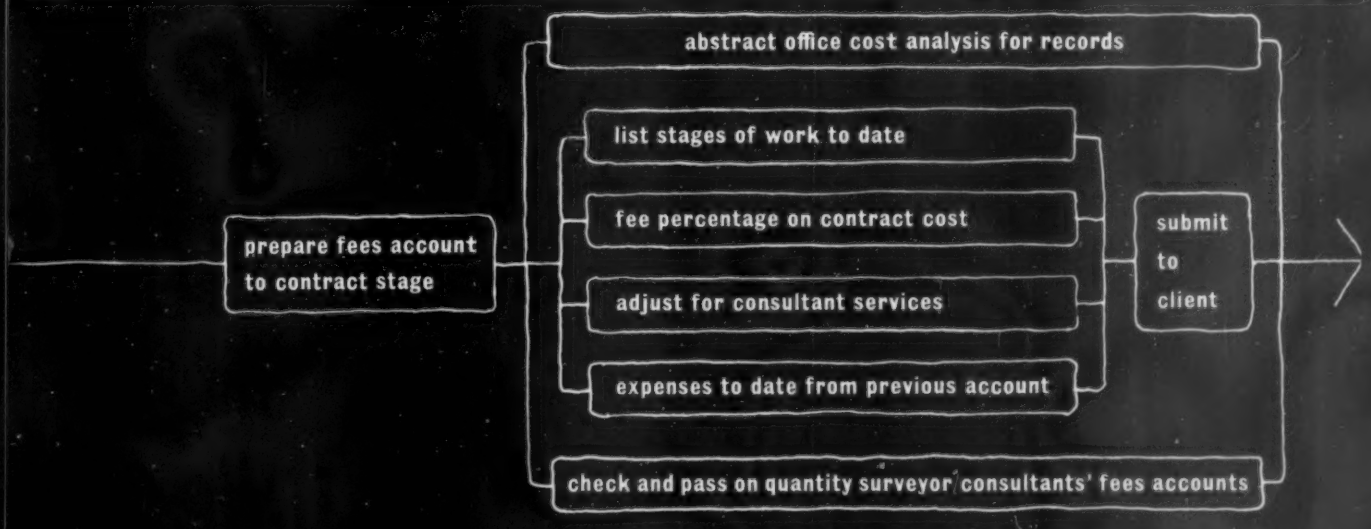
contract stage fees 45

The second interim account for fees becomes due on completion of the contract documents which technically signifies the completion of contract drawings and placing the contract.

The account submitted will be in accordance with the appropriate agreed scale and is based on the contract figure entered in the documents and adjusted for services of consultant, plus agreed expenses incurred from the date of presentation of the previous accounts and less the fee already received on account. The stages through which you have worked should be listed, and it should be noted that the fees will be adjusted to the agreed final account for the contract.

A cost analysis should be attached to the file copy of the account for reference as on the previous account.

This is also the time at which the quantity surveyor's fees for preparation of the bills of quantities become due according to the original terms of appointment. They will probably be presented through your office to the client. They should, therefore, be checked against the originally agreed terms and scale and be forwarded to the client with a letter confirming that the works have been completed to your satisfaction and that the account should be paid. The same procedure applies to the accounts for fees submitted from time to time by the engineer or other consultants.



SfB No. B
UDC No. 651·69

Contract administration

contractor's programme 46

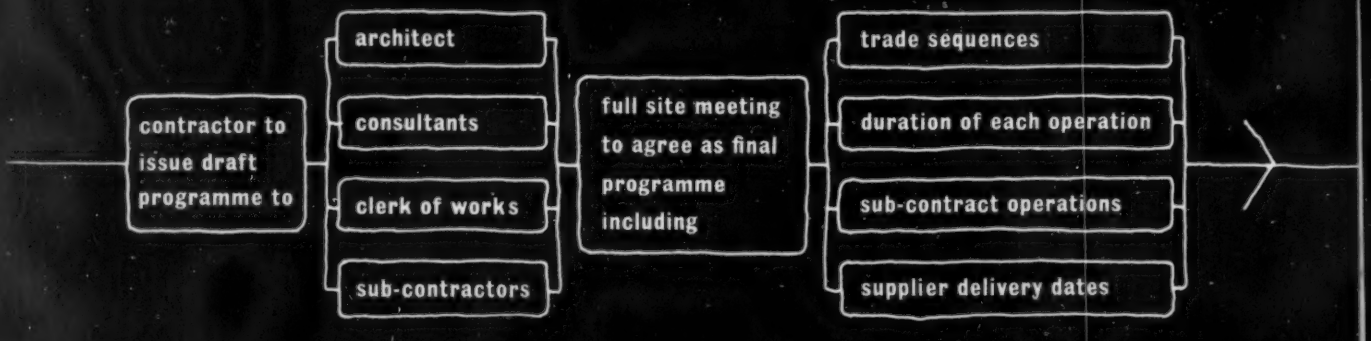
You should ask the contractor to issue his draft programme for work in advance of the meeting with all sub-contractors, to enable everyone to relate this to other work and plan their own sections of the work in their own office. Modifications or revisions can then be made around known conditions rather than a firm's representative agreeing for the sake of being helpful and incurring later delays which throw the whole contract off balance.

Each trade operation and sub-contract should be shown on the progress schedule, in contract sequence, and the dates on which they are to start and finish on site. They should be shown in a way which will give a cross section of the work on the site at any one time. A copy in the architect's office can then be related to clerk of works' or other site reports in checking progress and ensures that subsequent site visits for inspection of work can be carefully related to particular sequences or stages in the contract.

At the site meeting at which the draft programme is being discussed it must be made perfectly clear that agreement to this programme is not to be given lightly and that agreement constitutes assurance to complete on behalf of the representative's company against the proportion of any liquidated damages sum which may be passed through to them as part of their sub-contract agreement.

It should also be made clear at the meeting that the orders having been placed by the main contractors, the architect can in no way intervene unless a dispute arises and he is called upon to do so, and that the contractors will be responsible for all arrangements with sub-contractors regarding deliveries, off loading and attendance.

If, later in the contract, the general contractor asks to sub-contract parts of the work, approval of his own sub-contractors must be subject to the usual references and a reminder that he is responsible and must also enter into sub-contract terms under the conditions of the main contract.



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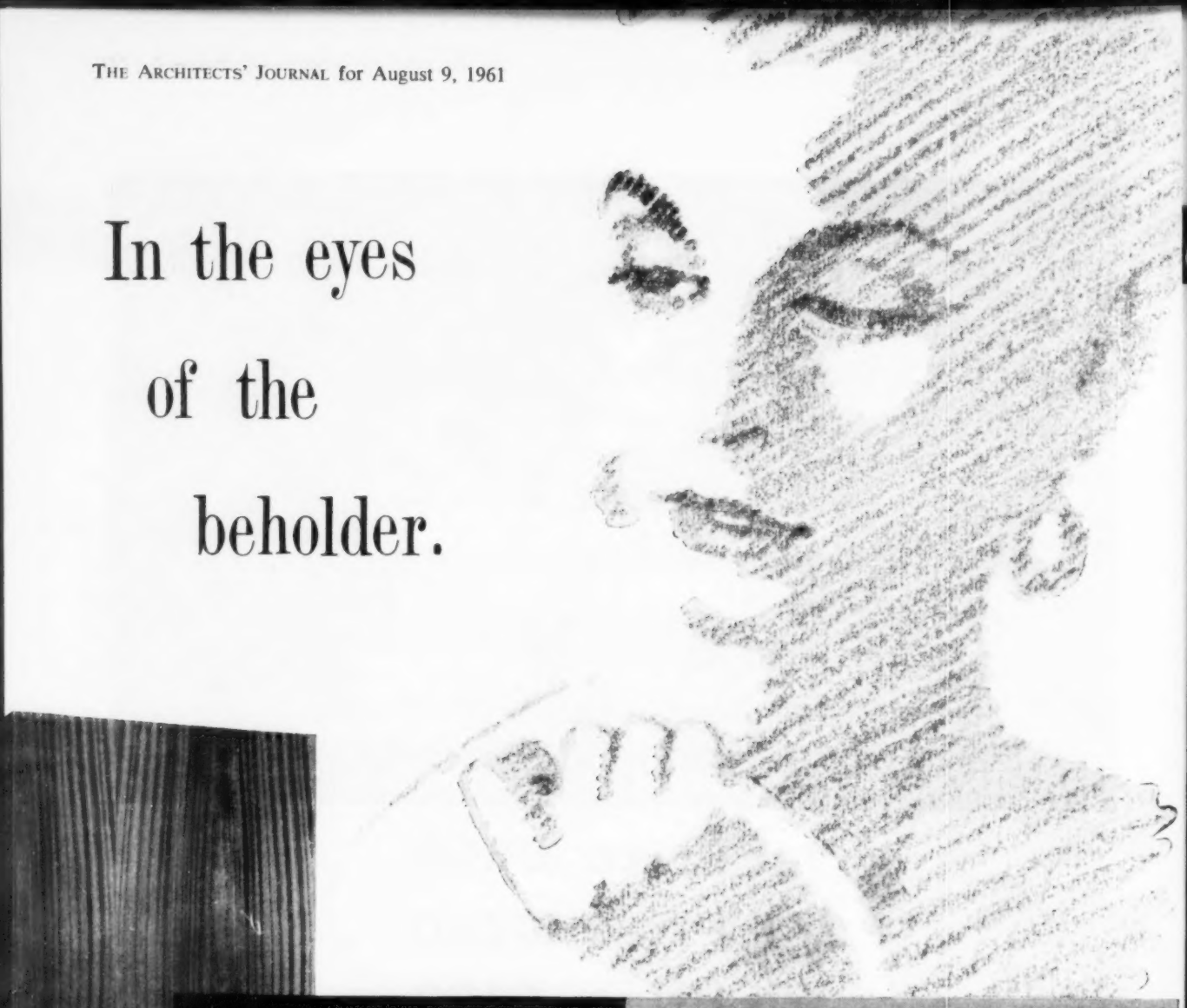
Closing date for entries November 6th 1961.

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SfB No.	(94)
UDC No.	725·512

Doctor's Surgery

at ABBEY WOOD, LONDON, SE2
designed by MYLES & DEIRDRE DOVE
quantity surveyors E. C. HARRIS & PARTNERS

This modest building provides not only a surgery and reception area, but also separate living accommodation for a caretaker and the doctor on night duty. This diversity has been used as the basis for an articulated design, which also breaks down the site into two private courts.

Surgery from the south





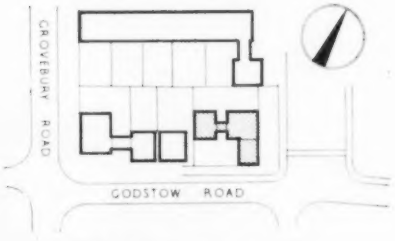
Junction of the three blocks, with ground floor flat for duty doctor left, surgery block in the centre and reception and waiting room on the right

APPRAISAL

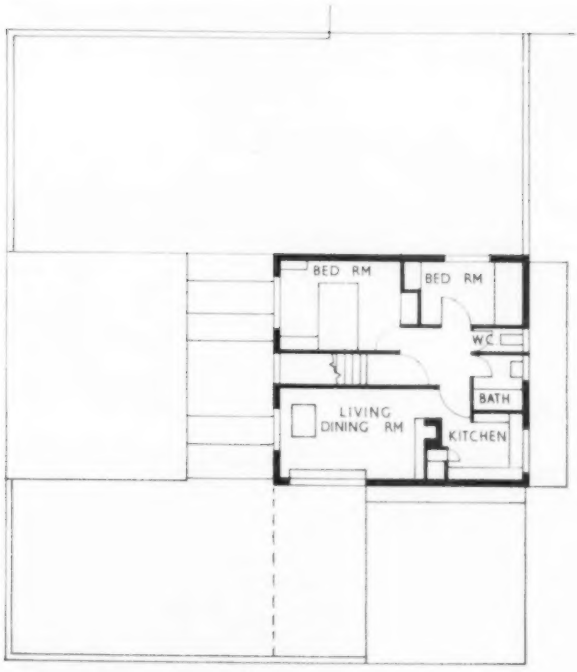
The doctor for whom this surgery was built refused the LCC's offer of a four bedroom house with attached surgery, wanting instead a building which served her needs more closely (she didn't *need* four bedrooms). The doctor commissioned her own architects, whose design can now be seen as an essay in " thought about " architecture, standing amid an assortment of undistinguished type plans, in one of the LCC's housing estates.

It is curious that here, as at Peterlee, architects who have wished to make an emphatic statement within indifferent surroundings should have chosen an aesthetic based on brick and painted weather boarding. There is something very satisfying about this combination of materials; used carefully it creates a considerable impact.

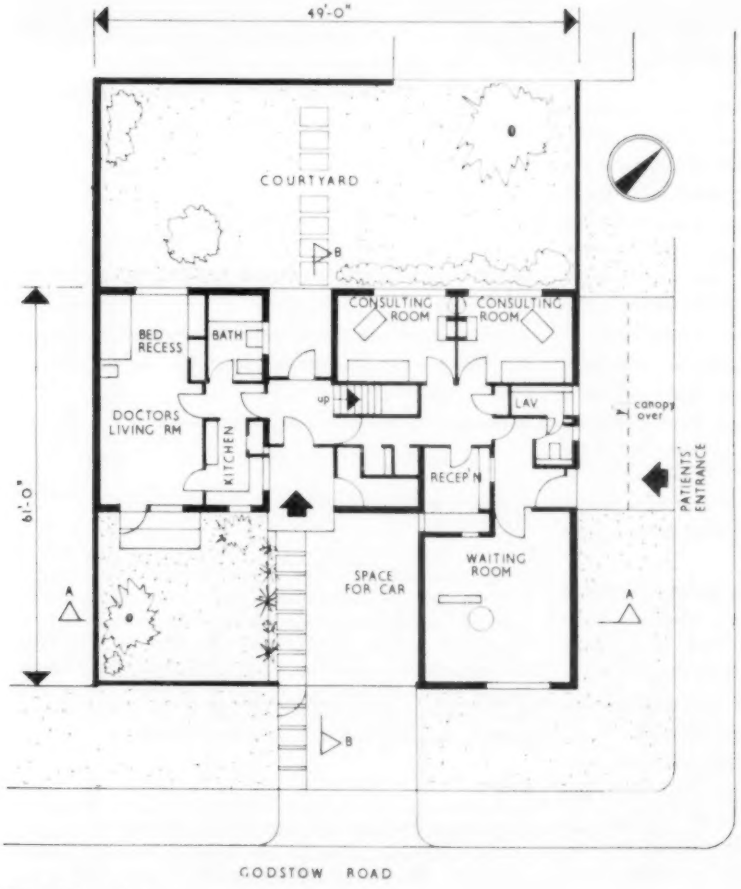
A corner site eases circulation difficulties by providing alternative entry directions, but poses the architectural problem of rounding the corner. The use of a special " corner type " plan is the familiar but often crude solution to the utilitarian problem, failing to solve the aesthetic difficulty. By placing a single-storey block in front of a



Block plan [Scale: $\frac{1}{32}$" = 1' 0"]



First floor plan



Ground floor plan

[Scale: ½" = 1' 0"]

two-storey one, the architects have provided views of four main wall surfaces in a way that invites a perception of the site's depth: thereby dissolving the corner's uncompromising vertical edge. Yet continuity is maintained by the mono-pitch roofs which subtly echo the adjoining roof shapes, showing how a good building can respond favourably to somewhat unpromising neighbours.

The accommodation is divided into three blocks. First, a two-storey block containing a ground floor surgery and a first floor flat for the secretary-caretaker. Second, a single-storey patients' waiting room projecting from the surgery. Third, a single-storey flat for the duty doctor linked to the surgery and at right angles to the waiting room. This splitting of the living accommodation between blocks and the resulting flat-over-surgery arrangement is the cause of rather tight planning around the patients' entry, where the L-shaped wc seems awkwardly placed in itself, as well as occupying a plan position which causes a constriction of the patients' circulation space.

The surgery planning works well in practice. The receptionist who receives patients and shows them into one of the two consulting rooms has been placed at the centre of activity with a view in three directions. The patients' entry between consulting and waiting room permits patients to leave the building after consultation without returning through the waiting room, unless they have children to collect. Less pleasing are the two undressing cubicles which are small and badly positioned. It is unfortunate that patients are compelled to go through an unpleasant rigmarole, involving leaving the consulting room, crossing a corridor, undressing in a two foot nine inch square box, recrossing the corridor in a state of (presumably) partial undress and re-entering the consulting room. This procedure has of course to be repeated in reverse order. Does this really save the doctor's time? The practice seems to have originated in hospitals, where it is socially undesirable, and then to have infiltrated the group practice where it is thoroughly objectionable. An architect confronted with similar requirements might well visualise himself in the position of the patient. This might help him to devise a more human arrangement.

The standard of three-dimensional design is very high. Generally, the mono-pitch roofs have their undersides exposed within the building, producing many interesting volumes. In the patients' waiting room the lower part of the roof reduces the scale sufficiently for a children's corner to be provided. The windows are not only elegant from outside but, being well placed, the quality of lighting inside is right and without any overglazing.

The detailing is good. Junctions, joinery design and internal tiling all fit into the architectural pattern. Much credit for this consistency belongs to the contractor, whose work generally reaches a standard too seldom achieved.

The detailing of the external floorscape does not, however, quite equal the standard set elsewhere. A patch of unconvincing grass in front of the waiting room has been trampled, as small grassed areas invariably are. Low railings are seldom effective deterrents. It would, perhaps, be preferable to treat semi-public urban areas with hard surfaces, reserving grass for specific purposes. Against this the small private courts have been enclosed within high brick walls to ensure privacy, a quite different and much happier design approach.

But these minor criticisms do not detract from the merit of this building, an imaginative, functional design within a modest vocabulary.





Upper, east side, with typical neighbouring housing beyond

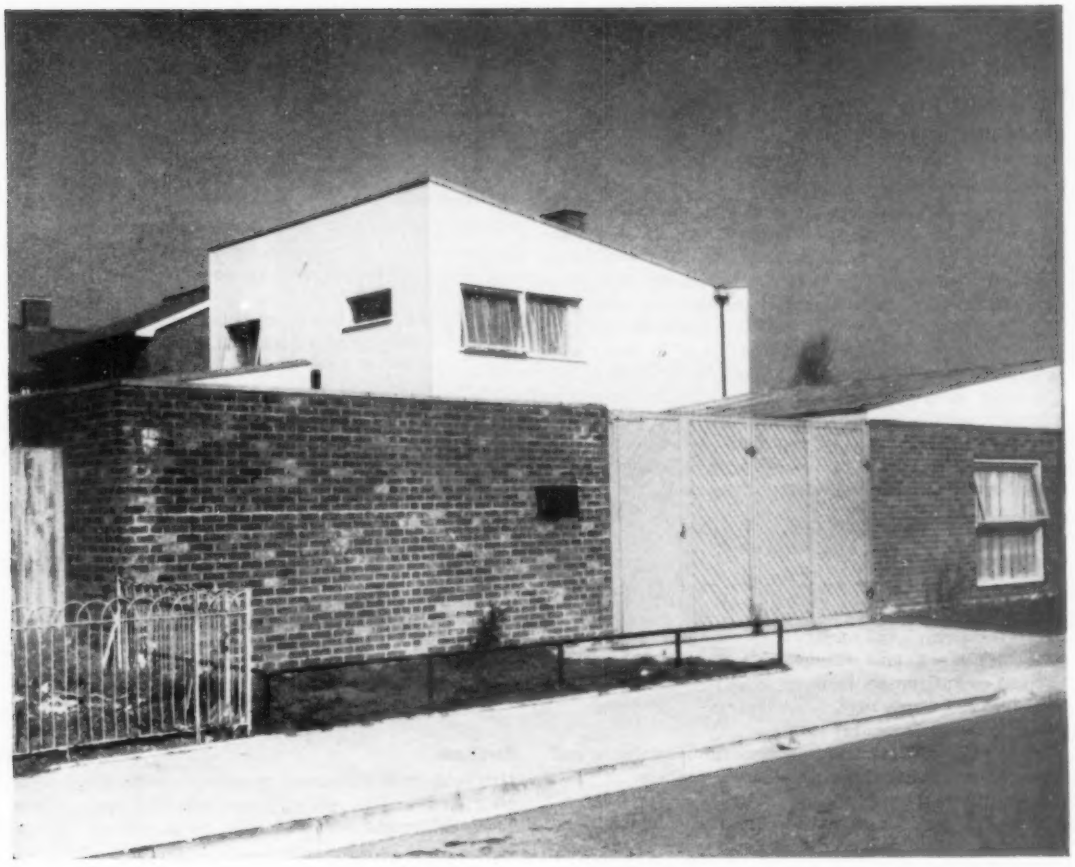
Lower, children's corner in the waiting room

CLIENT'S REQUIREMENTS

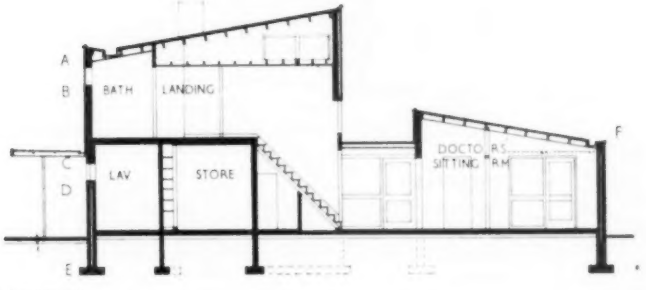
New building designed for a doctor practising with a group of assistant doctors on an LCC housing estate in south-east London. The requirements differ in several ways from those of a general practitioner's house with attached surgery. The doctor needed a quiet bed-sitting room for herself (or the relief doctor) when on duty; a separate two bedroom flat had to be provided for a secretary-caretaker. The surgery itself consists of two consulting rooms, reception, waiting, storage, changing and lavatory accommodation.

SITE

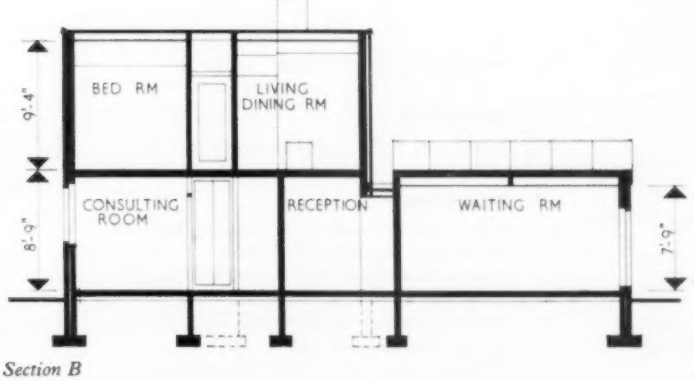
A quite small corner site mostly surrounded by two-storey housing and maisonettes. Some dwellings for old people are on the other side of a green open space to the east of the site; beyond this, to the north, will be shops and a church.



Private entrance



Section A



Section B

[Scale: $\frac{1}{16}$" = 1 0"]

Visitors to the surgery come towards the building from several directions, including the road on the south, where there is a parking bay at the edge of the green.

PLANNING AIMS

The general arrangement of the site had to suit the arrival of patients from all directions, to give the doctor some privacy, while allowing space for parking a car on the site, and at the same time had to keep the major part of the area required single-storey. It was technically desirable to do this because the site is very marshy and soft. The building was grouped with its accommodation into three parts (surgery, doctor, and caretaker) so as to satisfy these requirements as far as possible. Access by car could only be from the south side thus determining the car port and the doctor's private entrance. It was originally designed to accommodate only one car, but at the start of the contract it was decided that two cars would be needed, and the gates and cross-over on this side had to be enlarged.

SUMMARY

Ground floor area: 1,104 sq. ft.
Total floor area: 1,588 sq. ft.
Type of contract: RIBA with quantities (fixed price).
Tender date: February 1959.
Work began: March 1959.
Work finished: September 1959
Tender price of foundation, superstructure, installation and finishes, including drainage to collecting manhole: £6,060 0s. 0d.
Tender price of external works and ancillary buildings, including drainage beyond collecting manhole: £440 0s. 0d.
Total: £6,500 0s. 0d.

COST ANALYSIS

Based on tender.
(AJ revised elemental breakdown in use from November 10, 1960.)

	Cost per sq. ft. s d
Preliminaries and insurances	6 3
14 per cent of remainder of contract.	
Contingencies	3 9½
Work below lowest floor finish	8 2
Strip foundations, ground floor bed, damp-proof membrane and brickwork to damp-proof course. Mesh reinforcement to ground floor slab and all wall foundations except those of boundary walls to courtyard.	

STRUCTURAL ELEMENTS

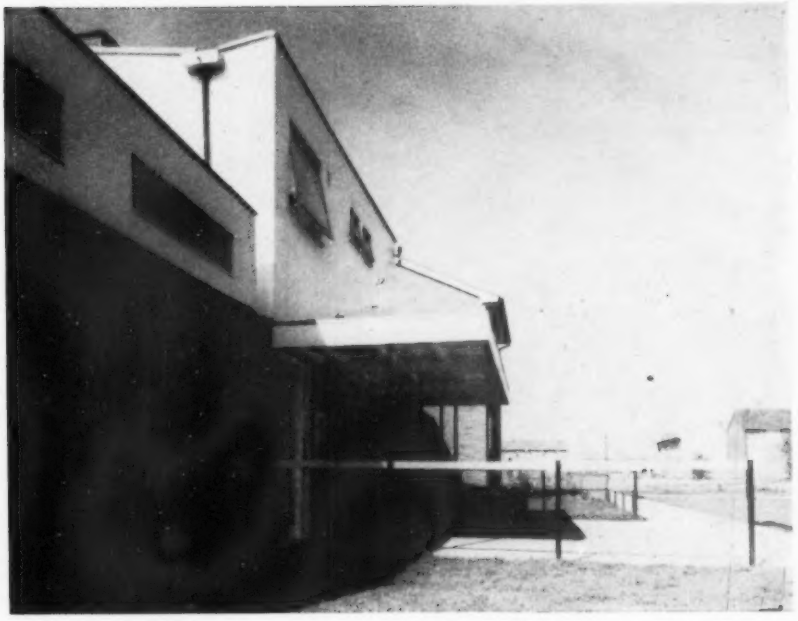
	s d
Upper floors	4½
Timber with 6 in. × 2 in. joists; 54 sq. yds., 11s. 10½d. per sq. yd.	
Roof	9 8½
Timber framed with 6 in. × 2 in. and 7 in. × 2 in. joists covered with strawboard and zinc roll-cap roofing; 144 sq. yds., 107s. 3d. per sq. yd.	
Staircases	4½
One softwood 8 ft. 0 in. high × 3 ft. 0 in. wide. 1¼ in. treads, 1 in. risers and 1½ in. × 14 in. wall strings (no balustrades). Polished hardwood handrail.	
External walls	11 9½
Cavity with half brick outer skin in facings at 377s. 6d. per thousand, 4 in. lightweight concrete insulating block inner skin; 151 sq. yds., 69s. 0d. per sq. yd. 6 in. lightweight concrete insulating block faced with 1 in. wrot softwood, tongued, grooved and "V" jointed boarding on 1½ in. × 2 in. battening; 125 sq. yds., 64s. 2d. per sq. yd.	
Windows	2 0
2 in. softwood casements in 2½ in. × 5 in. softwood frames glazed generally with 32 oz. glass; 324 sq. ft., 9s. 9¾d. per sq. ft.	
External doors	1 2
2 in. softwood glazed in 2½ in. × 5 in. softwood frames with 3 in. × 6½ in. hardwood thresholds; 160 sq. ft., 21s. 4¾d. per sq. ft. 5 single doors.	
Partitions	1 9¾
Half brick walls in flettons; 79 sq. yds. (12 sq. yds. built fair one side), 19s. 9d. per sq. yd. 2½ in. lightweight concrete blocks; 32 sq. yds., 15s. 2¾d. per sq. yd. 3 in. similar blocks; 42 sq. yds., 17s. 10½d. per sq. yd.	
Internal doors	1 7¾
Flush (1¾ in. thick generally but 1⅜ in. to cupboards) hardboard or beech faced, in 1½ in. × 4 in. softwood linings; 348 sq. ft., 10s. 5¾d. per sq. ft. 24 single doors. 2 pairs double.	
Ironmongery	2 1¾
Anodised aluminium door and window furniture, projecting push-out gear for all softwood windows, recessed aluminium curtain tracks with nylon sliders.	
Total of structural elements: 31s 0¾d	

FINISHES AND FITTINGS

	s d
Wall finishes	2 8
Plastering: 508 sq. yds., 8s. 4d. per sq. yd.	
Floor finishes	3 3¾
1 in. softwood tongued and grooved flooring; 50 sq. yds., 21s. 4¼d. per sq. yd. Composition flooring on cement sand screed; 86 sq. yds., 36s. 2½d. per sq. yd. Wood-block flooring on cement sand screed; 24 sq. yds., 44s. 11d. per sq. yd. All with ¾ in. × 4 in. hardwood skirtings.	



Internal lobby, with consulting room beyond



Patients' entrance from the south-east

Ceiling finishes **1 7½**

Perforated hardboard; 9 sq. yds., 10s. 0½d. per sq. yd.
Fire-retardant insulation board; 30 sq. yds.,
15s. 4½d. per sq. yd.
Flat ceiling boarding in softwood; 26 sq. yds.,
24s. 2d. per sq. yd.
Close jointed softwood boarding; 8 sq. yds.,
28s. 4½d. per sq. yd.
Plasterboard; 93 sq. yds., 14s. 9½d. per sq. yd.

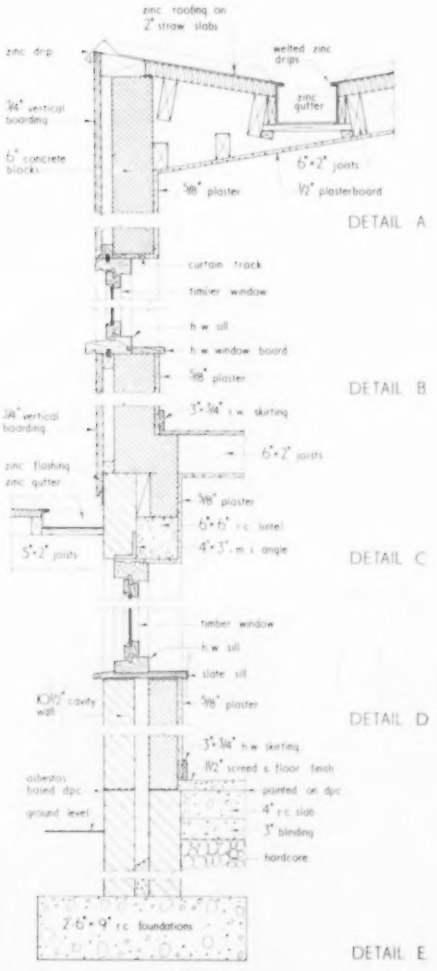
Decorations **3 11½**

Interior: white or light grey emulsion paint on walls generally; wallpaper in consulting rooms.
Clear lacquer on softwood boarding and flush doors.
Gloss paint on architraves and frames.
Exterior: white gloss paint on upper storey and frames.

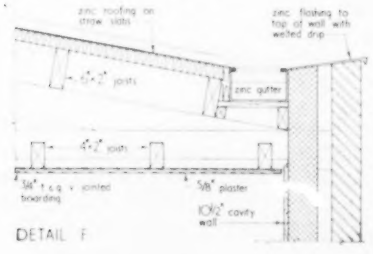
Fittings **3 4**

Kitchen: £25.
Reception, consulting rooms and dispensary: £140.

Total of finishes and fittings: 14s 10½d

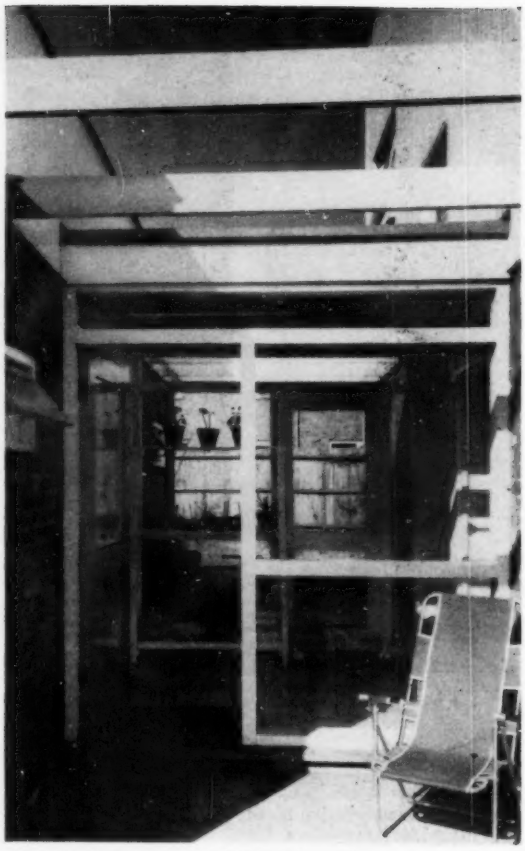


Details from section A [Scale: ¼" = 1' 0"]



SERVICES

		s	d
Sanitary fittings		1	7
Type	*No. of each type*		
Sinks	2		
Lavatory basins	5		
Low-level wc suites	3		
Baths	2		
Waste, soil and overflow pipes			9½
Galvanised iron tubing. Coated cast iron soil and vent pipes.			
Cold water services		2	2
Galvanised iron tubing. 74-gallon cistern. No. of draw-off points: 9. Includes builders' work, 4d.			
Hot water services		1	7½
Galvanised iron tubing throughout (due to locality). 30-gallon cylinder (with back boiler and immersion heater) on first floor, draw-off points 3. 1 gas heater with 3 draw-off points in doctor's flat. 2 electric storage heaters in surgery with 3 draw-off points. Caretaker has open fire with back boiler, and all hot water systems are separately metered. Includes builders' work, ½d.			
Heating services			4
Fire interior (with back boiler) slabbed tile surround and hearth on first floor, single radiator. Heating for ground floor (used for short periods only) by electric radiators or convector heaters connected to socket outlets (included in electrical). Includes builders' work.			
Gas services			5½
Separate metering for ground and first floor. No. of outlets: 4. Includes builders' work, ½d.			
Electrical services		3	2½
Separate metering and distribution for ground and first floor accommodation. No. of points: 75. Conduit for telephone and " entryphone " systems. Includes builders' work, 1d.			
Drainage		3	0
Combined system, stoneware drain pipes with special flexible points.			
Total of services: 13s 1½d			
External works		4	7½
Paving slabs on paths, *in situ* brush-finished exposed aggregate concrete in granite sett divisions forming hard standing for car and patients' entrance. Includes guard rails and canopy, noticeboards and external letterbox for patients' notes, also gates and special delivery hatch for doctor's private entrance.			
Total cost per sq. ft. of floor area:			
£6,135 (net cost excluding external works)	=	77	2¾
1,588 sq. ft. (measured inside external walls)			



Glazed private entrance with court beyond

COST COMMENTS

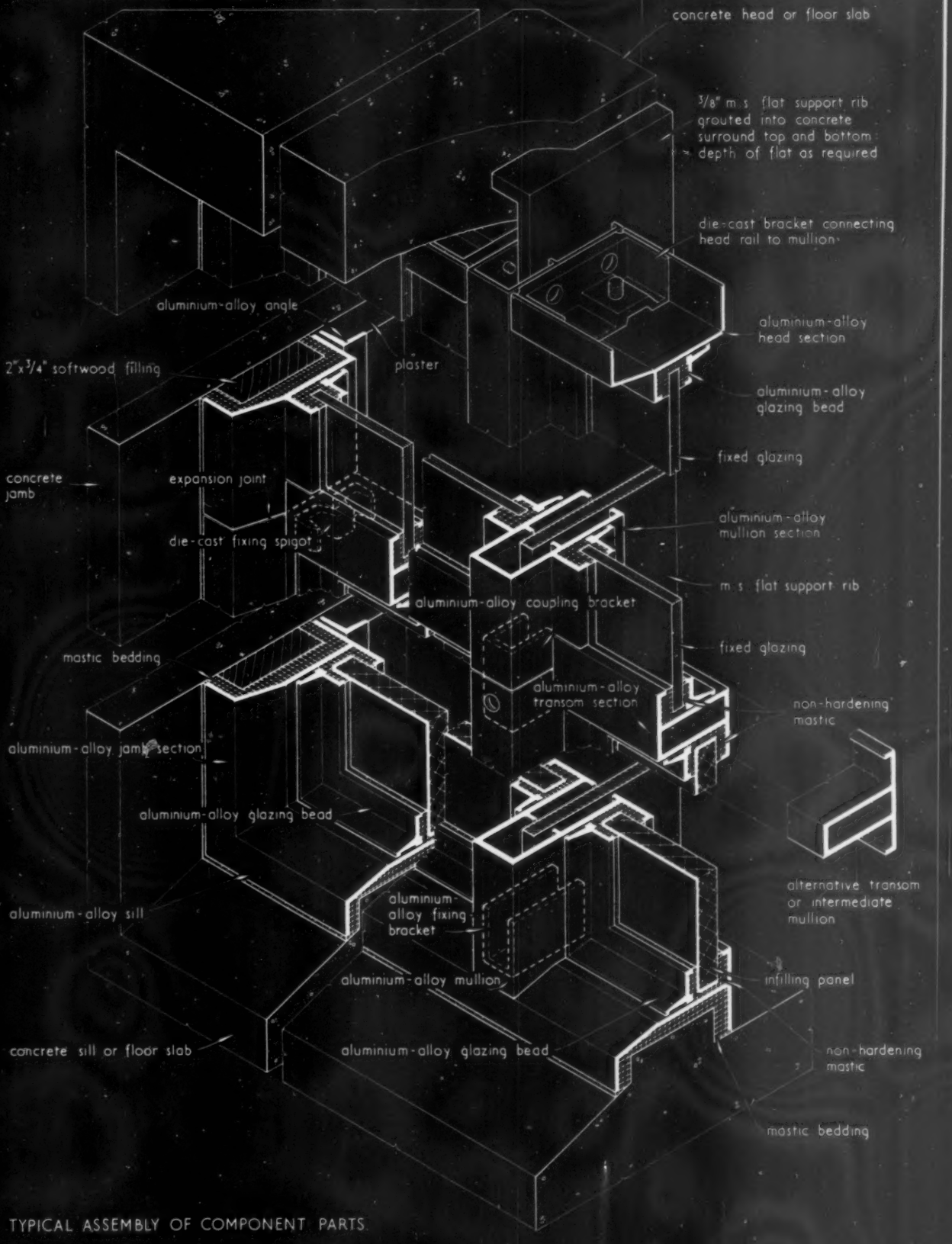
To carry out a small building of this nature at less than £4 a square foot is an achievement. This is particularly so, bearing in mind that the architects have deliberately chosen (with good reason) to produce an articulated design, resulting in a ratio of external wall and windows to floor area of just over 1.75. This feature is reflected, quite naturally, in the cost of these elements, which together amount to nearly 14s. In compensation, the architects have economised on such elements as heating and floor finishes which, together with simple and workable detailing, has made the exceptionally low overall figure possible.

CONTRACTORS

General contractors: Thomas & Edge Ltd. *Sub-contractors and suppliers—Zinc roofing:* Holloway Metal Roofs Ltd. *Electrician:* E. V. Bullen & Son. *Gas:* South Eastern Gas Board. *Wood block and composite flooring:* Rowan & Boden Ltd. *Ironmongery:* A. G. Roberts Ltd. *Flush doors:* Walter Lawrence Ltd. *Curtain tracks:* Silent-Gliss Ltd. *Facing bricks:* R. Passmore & Co. Ltd. (Tonbridge Wealdon stocks). *Paint:* Screeton Paintmaker Ltd.

WALLS | ALUMINIUM AND STEEL

The Architects' Journal Library of Information Sheets 837. Editor: Cotterell Butler, A.R.I.B.A.



TYPICAL ASSEMBLY OF COMPONENT PARTS

JONWINDOW MARK III ALUMINIUM-ALLOY AND STEEL CURTAIN WALLING.

Manufacturer: John Williams of Cardiff Ltd

21.C1 ·JONWINDOW MARK III· ALUMINIUM-ALLOY AND STEEL CURTAIN WALLING

This Sheet describes Jonwindow curtain walling which consists of aluminium-alloy extruded sections to take glass and various types of infill panels, supported on vertical galvanised m.s. flat ribs and, where required, cross members of tee or angle section.

General

The system can be used for any type of curtain wall using glazed or solid panels. The drawing on the face of the Sheet shows a typical example and illustrates the range of components, the fixing of the transoms to the mullions and standard jointing details.

Components

Mullions: The mullion is a box-type extrusion, with internal stiffening webs, and flanges on each side to take solid panels or glazing. The mullion section is $2\frac{3}{4}$ in. in depth by 1 in. wide ($2\frac{1}{4}$ in. overall flanges). For solid panels, the flanges are situated at the back of the section, and for glazed panels about halfway along the depth. Both types are slotted vertically at the back for the full length of the section to accommodate the m.s. flat ribs of the basic grid. The extrusions are joined together by aluminium-alloy brackets as shown in the drawing on the face of the Sheet.

Transoms: These are of box section, $1\frac{3}{4}$ in. in depth by $\frac{3}{4}$ in. wide (2 in. overall flanges). There are two types available, one with the upper and lower flanges at opposite corners to take inside glazing above and externally-fitted solid panel beneath, and the other with both flanges at one end to take either glass or solid panel above and below. The latter type can also be used as an intermediate mullion. Transoms are fixed to mullions and jambs by cutting back the flanges as necessary and pinning through die-cast spigots.

Head, jamb and sill sections: The same extrusion is used for head, jamb and sill, $2\frac{3}{4}$ in. in depth by 1 in. high ($1\frac{5}{8}$ in. overall flange). The front is splayed to shed water, and the sections are available with the flange at the back or about halfway along the depth to accommodate either inside or outside glazing. The sill section is normally continuous, and mullions butt-jointed and retained by screwing to an aluminium-alloy bracket fixed to the sill. At the head, the sections are butt-jointed either side of the mullions and fixed by screwing to die-cast brackets.

Glazing beads: These are angle sections, $\frac{1}{4}$ in. by $\frac{5}{8}$ in., with one edge splayed to shed water, and used to retain glazed or solid panels. They are rebated at the back to provide a key for bedding and an anti-capillary groove.

Fixing

The basic grid can be secured to the main structure by standard or purpose-made brackets connecting the vertical support ribs to the floor slabs or steel frame, but any type of fixing can be effected to suit site conditions. The jamb sections are normally fixed by screwing, through a softwood filling, into a cast or built-in plug, or a bracket. Infill panels and extrusions are bedded with a non-hardening mastic, the rebate in the glazing bead forming a key for sufficient compound to ensure against failure of the seal through thermal movement.

Finish

Aluminium sections are supplied as extruded (mill finish) or anodised to B.S.S. All steel components are galvanised.

Further Information

The manufacturer maintains a technical advisory department available to give advice and assistance and to prepare specialised designs and details for architects. In addition to the Mark III aluminium-alloy and steel system described in this Sheet, other forms of construction in aluminium or in steel are available.

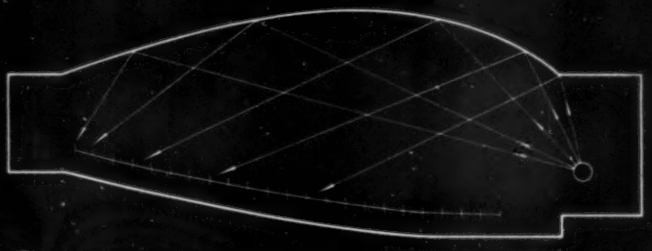
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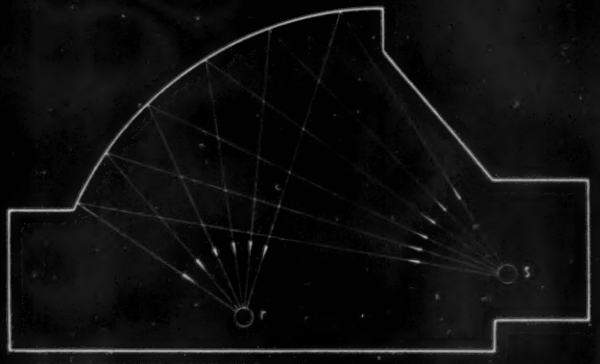
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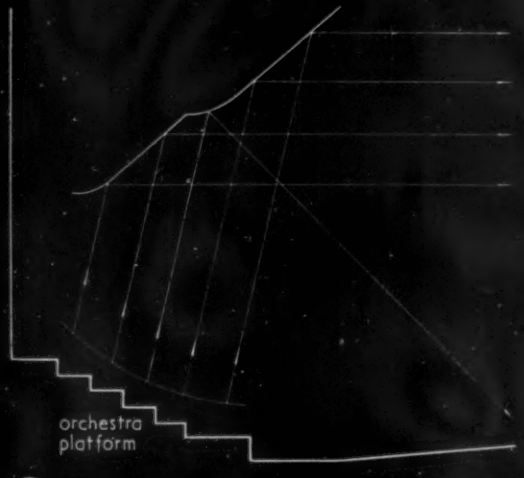
① A GOOD REFLECTING CEILING
(longitudinal section)



② A TYPICAL ECHO-PRODUCING CEILING
(longitudinal section)



③ ELLIPTICAL AUDITORIUM SHOWING TYPICAL BAD FOCUSING EFFECT
(plan)



④ LARGE SOURCE RESULTING IN 'PLANE' WAVE REFLECTIONS



⑤ AUDIENCE SOUNDS FOCUSED ONTO STAGE
(longitudinal section)

SOUND INSULATION, ACOUSTICS, 3 : DESIGN OF AUDITORIA

2.E3. SOUND INSULATION, ACOUSTICS 3: DESIGN OF AUDITORIA

This Sheet is the third of a series on sound insulation and acoustics and illustrates the design of auditoria. Other Sheets in the series deal with the application of the mass law to single-leaf, composite and cavity structures; impact insulation; sound absorbents.

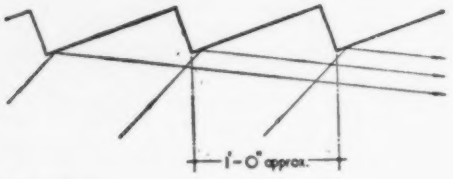
Principle of Sound Reflection

The theory of sound reflection is, briefly, that the angle of reflection from a flat surface is equal to the angle of incidence, as in light reflection. The converging reflections from concave surfaces (with possible focus points) and the diverging reflections from convex ones follow as a simple geometrical corollary. In fact the type of reflection from any shape of surface can be determined by geometry.

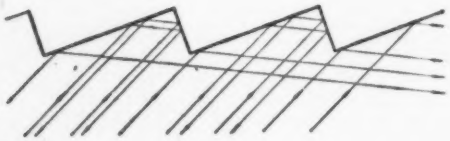
All internal surfaces of a room are to a large or small extent reflectors of the sound made in the room. The degree of reflectance is the converse of the absorption coefficient. For example, a plastered brick wall has an absorption coefficient of about 0·02 at 500 c/s, and reflects about 98 per cent of the incident sound at this frequency; a perforated fibreboard acoustic tile with an absorption coefficient of 0·8 at 500 c/s would reflect only 20 per cent of the incident sound. It should be noted that the absorption coefficient, and hence the reflectance, will vary, often considerably, with sound frequency. The coefficient of the acoustic tile at 100 c/s may be only 0·1, so that at this frequency four and a half times the amount of sound is reflected compared with that at 500 c/s.

Effect of Wavelength

Because the wavelength of sound varies very widely (from a few inches for the high frequencies to 20 ft. or more for the low ones) the size of the reflecting surfaces also has a great influence on the reflections formed. A surface which is broken into planes of, for example, one foot average dimension, will behave quite differently in reflecting low-frequency as against high-frequency sounds, as illustrated below.



low frequency



high frequency

The same considerations apply to freely-suspended surfaces, such as sound reflectors or splays, in that they are effective in directing sound in the manner predicted by geometrical laws only if they are large in area compared with the wavelength of the sound concerned.

It has been previously assumed on this Sheet that sound waves travel in straight lines. This is true for sounds of the shorter wavelengths (above 500 c/s approximately) but for those of longer wavelengths, diffraction or bending of the waves occurs, to an increasing extent, as the wavelength becomes longer. At the lowest frequencies the major dimensions of the room exercise an over-riding influence on the distribution of the sound energy and the phenomenon known as " normal modes " becomes increasingly important, particularly in small rooms (i.e. those in which the least dimension is smaller than the longest wavelength of sound, for example, 30 ft). In practice it is the high-frequency sounds which provide most of the " communication " in acoustics, providing good intelligibility for speech and definition of the indiviouual instruments in music.

From the theory of reverberation it is known that, for example, in an auditorium with a reverberation time of 2·0 seconds, the sound waves will have travelled 2,200 ft. before they become inaudible, and must therefore have encountered surfaces and been reflected many times. At each reflection some of the energy is lost by absorption, therefore, for the audience the most important reflection is the first one as this is the strongest and may be nearly as strong as (or where focusing occurs, stronger than) the direct sound. The next most important is the second one, and so on.

Design of Auditoria

From the foregoing considerations it is possible to formulate the following broad general rules to apply when designing rooms for acoustical purposes:

1. Surfaces will behave as efficient geometrical reflectors only if they have a low absorption coefficient and are large compared with the wavelength of sound.
2. First reflections of sound on to the audience, particularly that part of it which is most distant from the sound source, is recommended (see diagram 1). Reflections on to the audience within 20 ft. or so of the sound source is generally quite unnecessary and may be undesirable.
3. The total length of the path of the sound (from source to reflector and hence to audience) must never be more than 60 ft. greater than the direct distance from the source to that particular position. If there is any tendency for the reflections to come to a focal point in the audience, the path difference should not exceed 40 ft. otherwise echoes will be heard (see diagrams 2 and 3).
4. The source of sound should not necessarily be considered as a single point. Although this is true for a voice from a fixed rostrum, it may be necessary to consider a number of different points, as when the audience is addressed by a number of people on a platform. For an orchestra the source is not a single point, but should be considered as an area covering the entire orchestra seating. Such a source tends to produce " plane " waves of sound (i.e. parallel rays) rather than divergent rays as from a point source (see diagram 4).
5. All reflecting surfaces operate in both directions, so that if sound from a point on the platform is directed broadly on to the audience as a whole, any noise the audience makes (coughing, clapping, etc.), will be focused back strongly on to the point (see diagram 5) with disconcerting results to the speaker.
6. Correct designing of the room shape and reflecting surfaces does not supplant the need to design for correct reverberation time; it is supplementary to it.

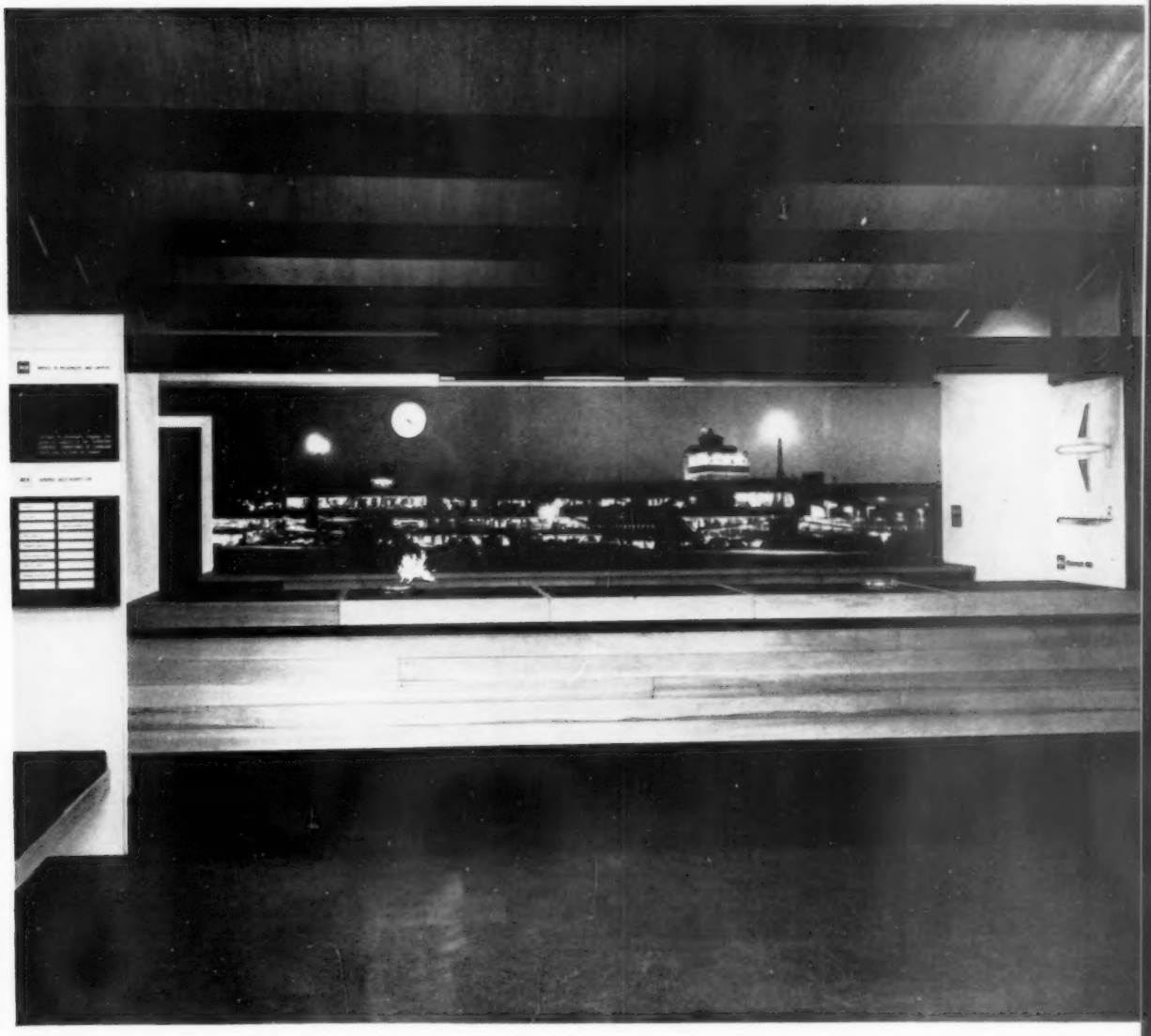
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working detail

COUNTER: OFFICE IN LEEDS

Ardin and Brookes and Partners, architects

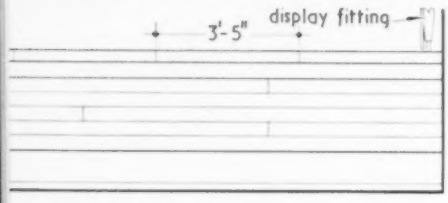


This booking office counter is built up from demountable units. The continuous panel of Parana pine along the front conceals a duct for telephone cables.

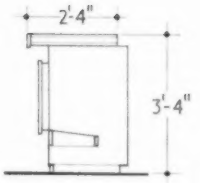
working detail

COUNTER: OFFICE IN LEEDS

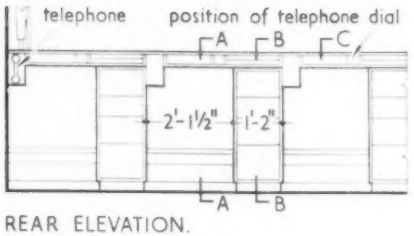
Ardin and Brookes and Partners, architects



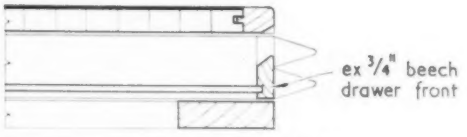
FRONT ELEVATION.
scale 1/4"= 1'-0"



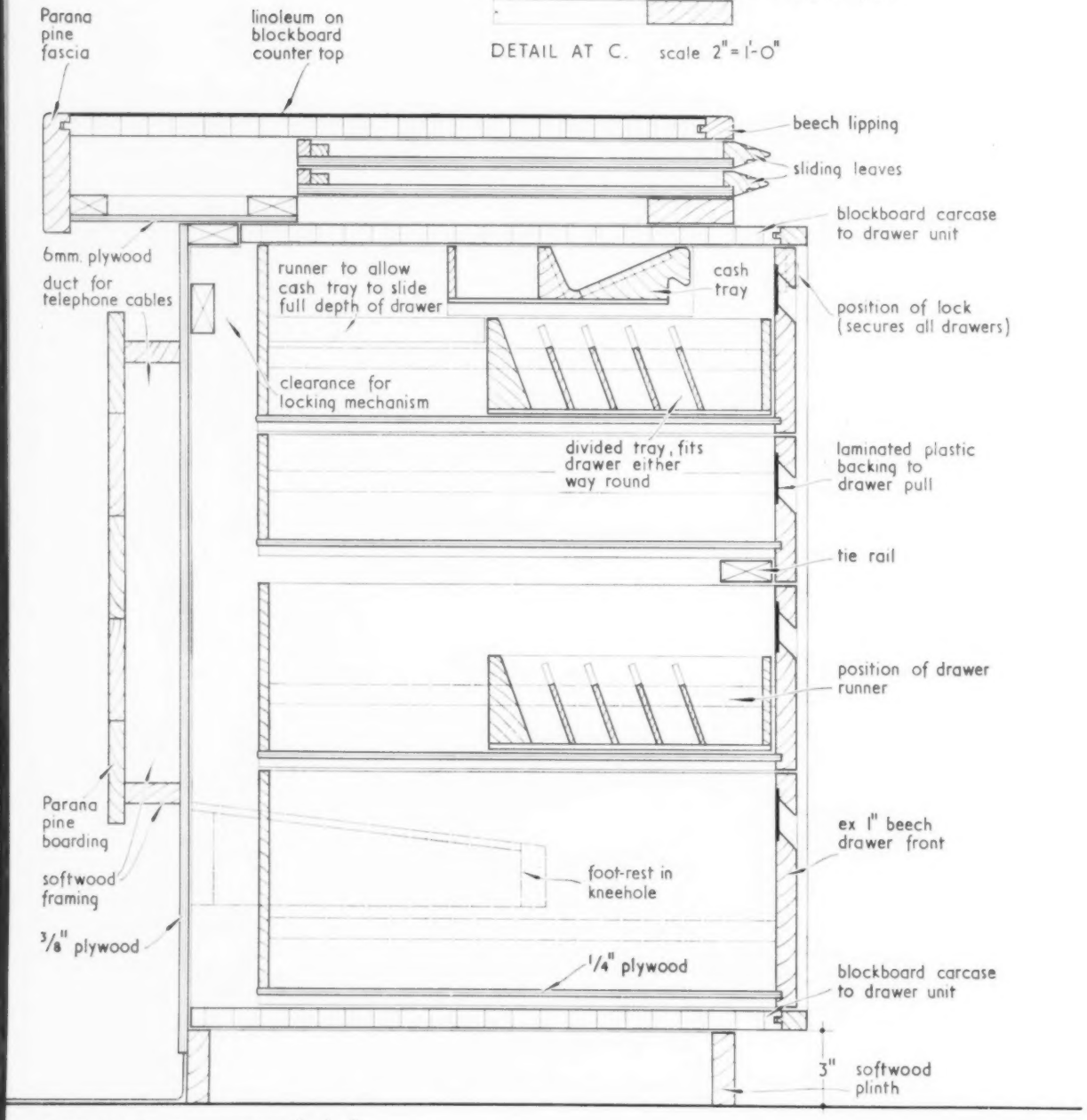
SECTION A-A.



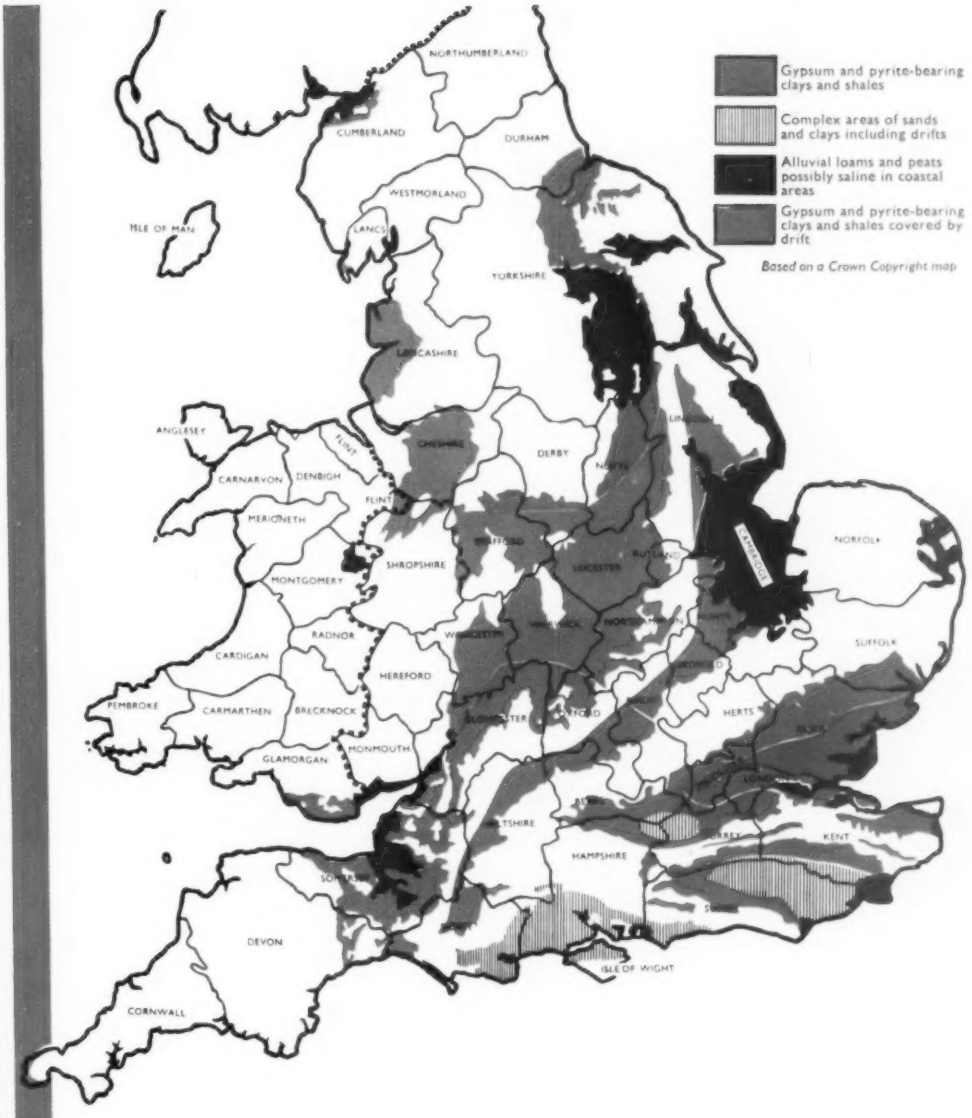
REAR ELEVATION.



DETAIL AT C. scale 2"= 1'-0"



SECTION B-B. scale 2"= 1'-0"



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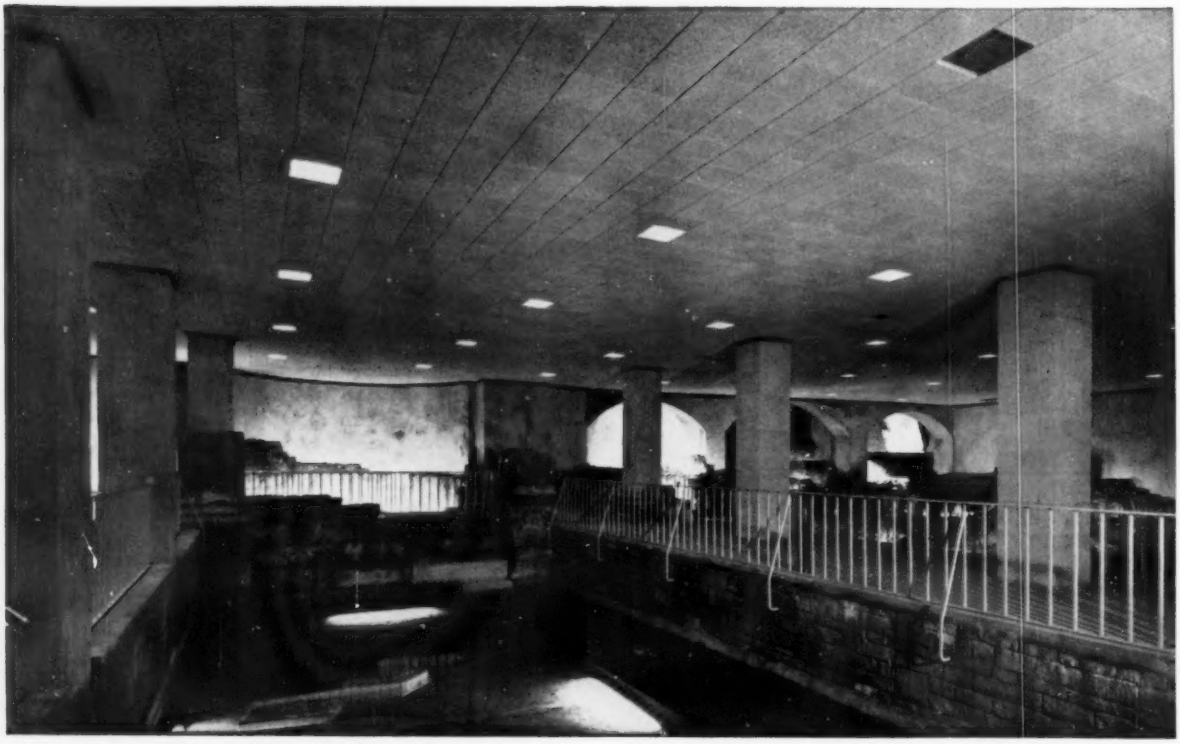
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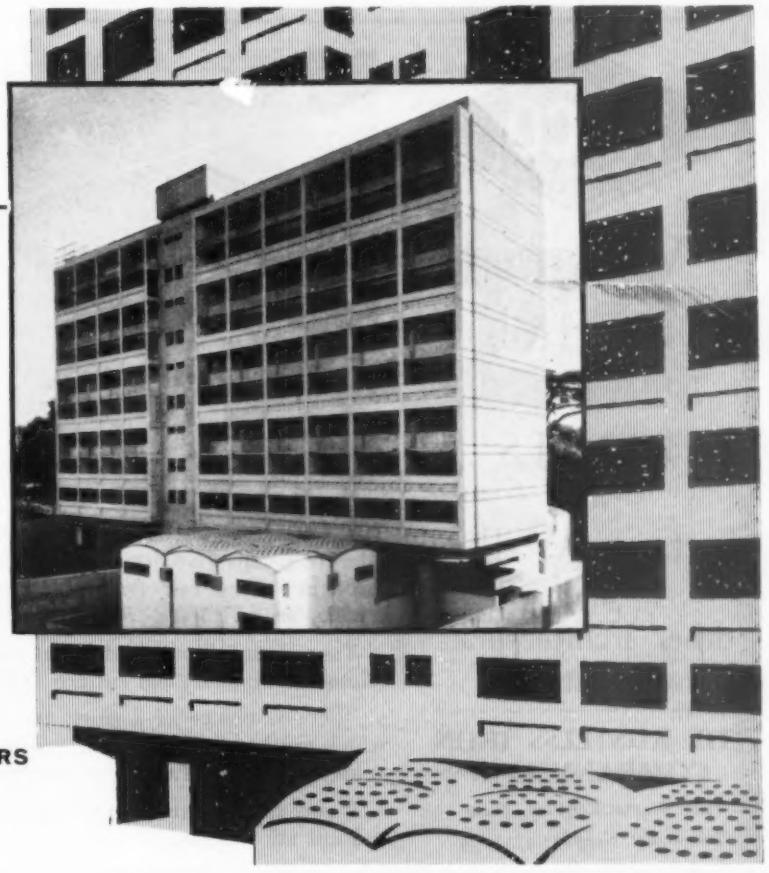
Office building in Los Angeles

This scheme, designed by William L. Pereira & Associates, will provide a new headquarters building for the local Metropolitan Water Board, sited on Sunset Boulevard. The design exhibits all the features of what Mumford defines as Neo-Libertarian design; matching well, nevertheless, into the sea of Cadillacs that will inevitably surround the building.

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Modular Construction Division specialises in foundations and reinforced concrete frames for all types of buildings. Illustrated is a ten-storey maisonette block and library recently constructed by Modular for the London County Council at Danebury Avenue, Roehampton.

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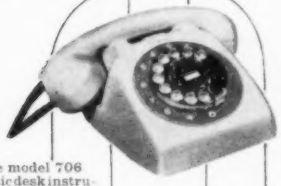
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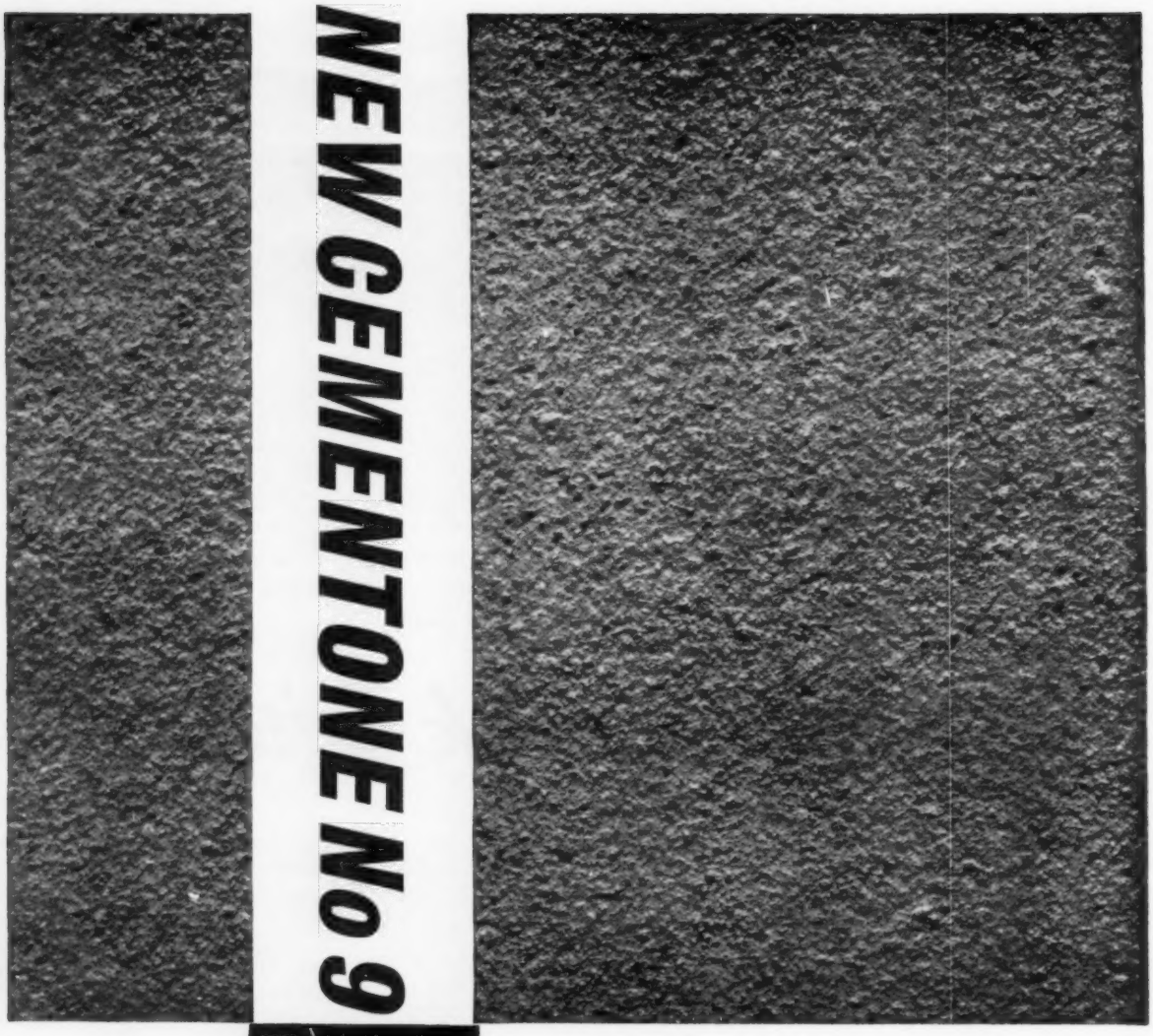
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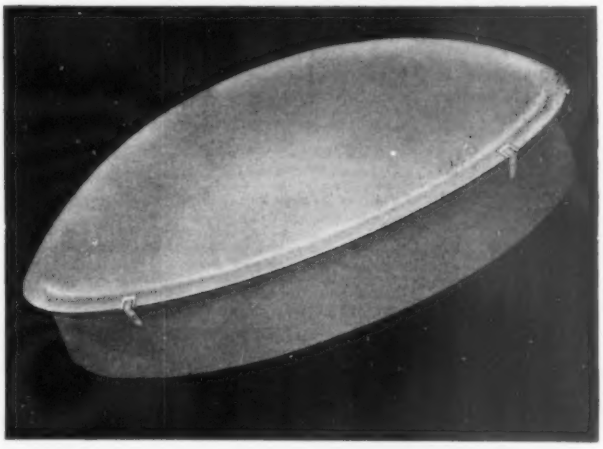
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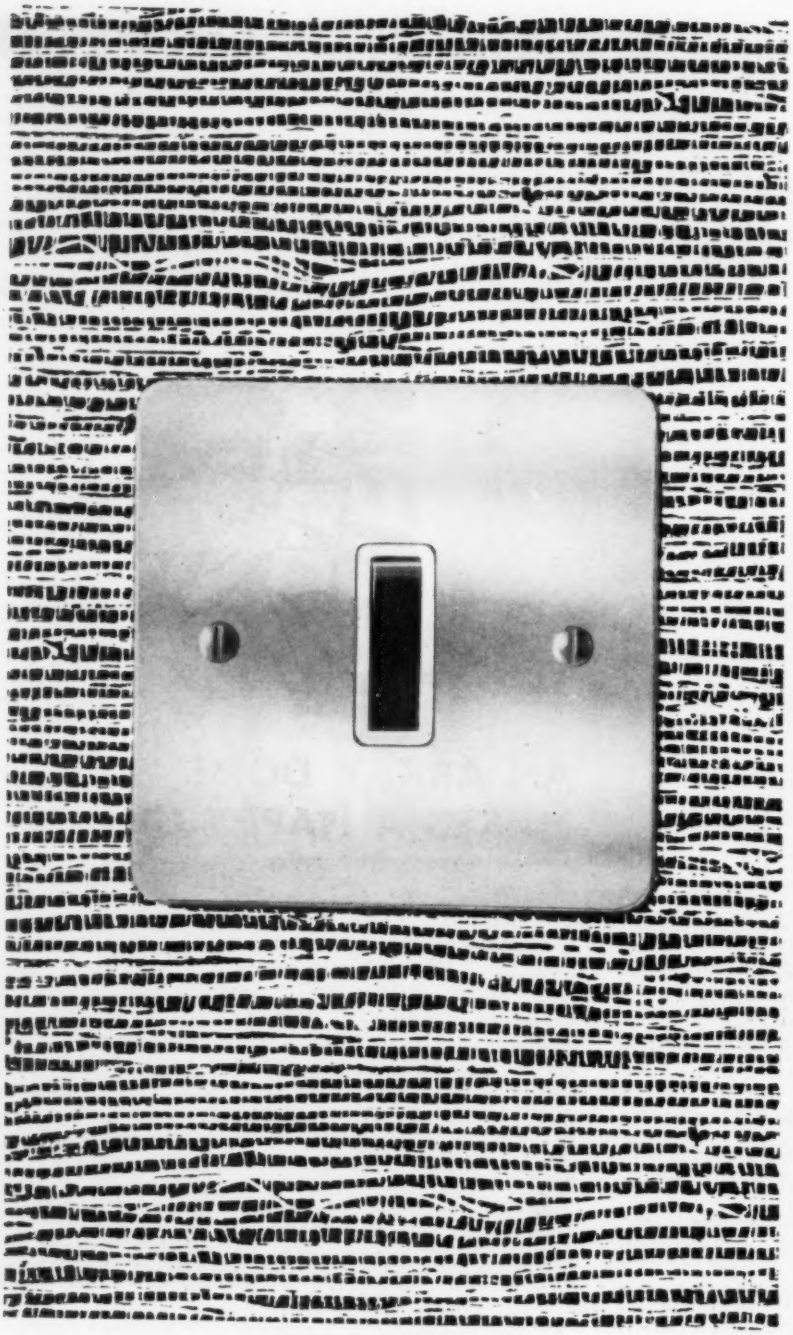
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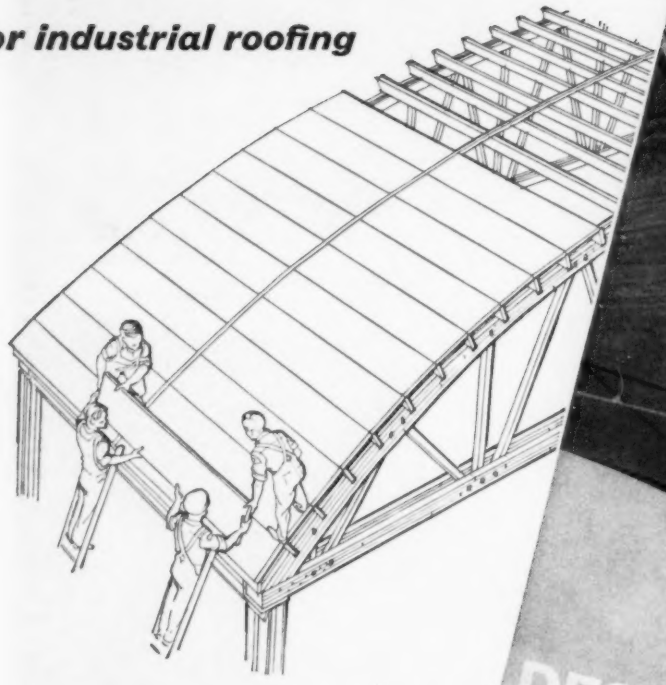
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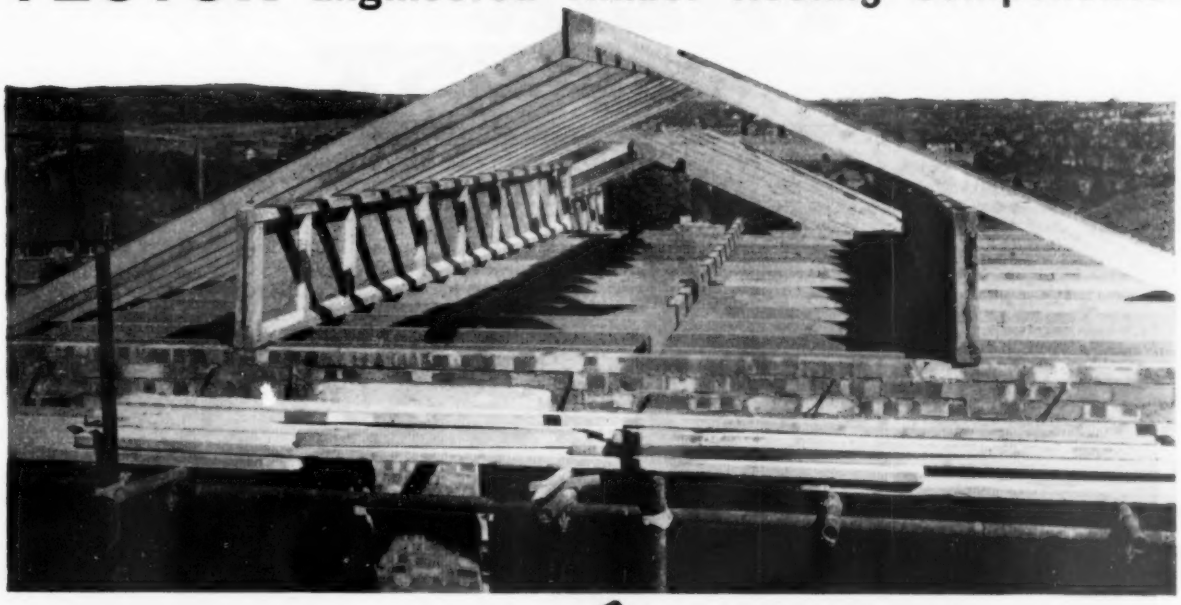
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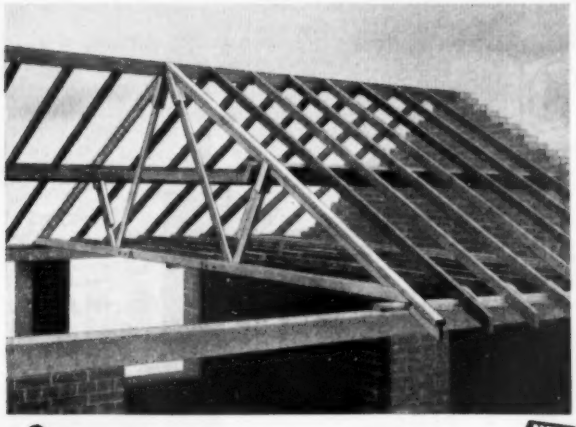
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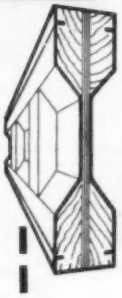
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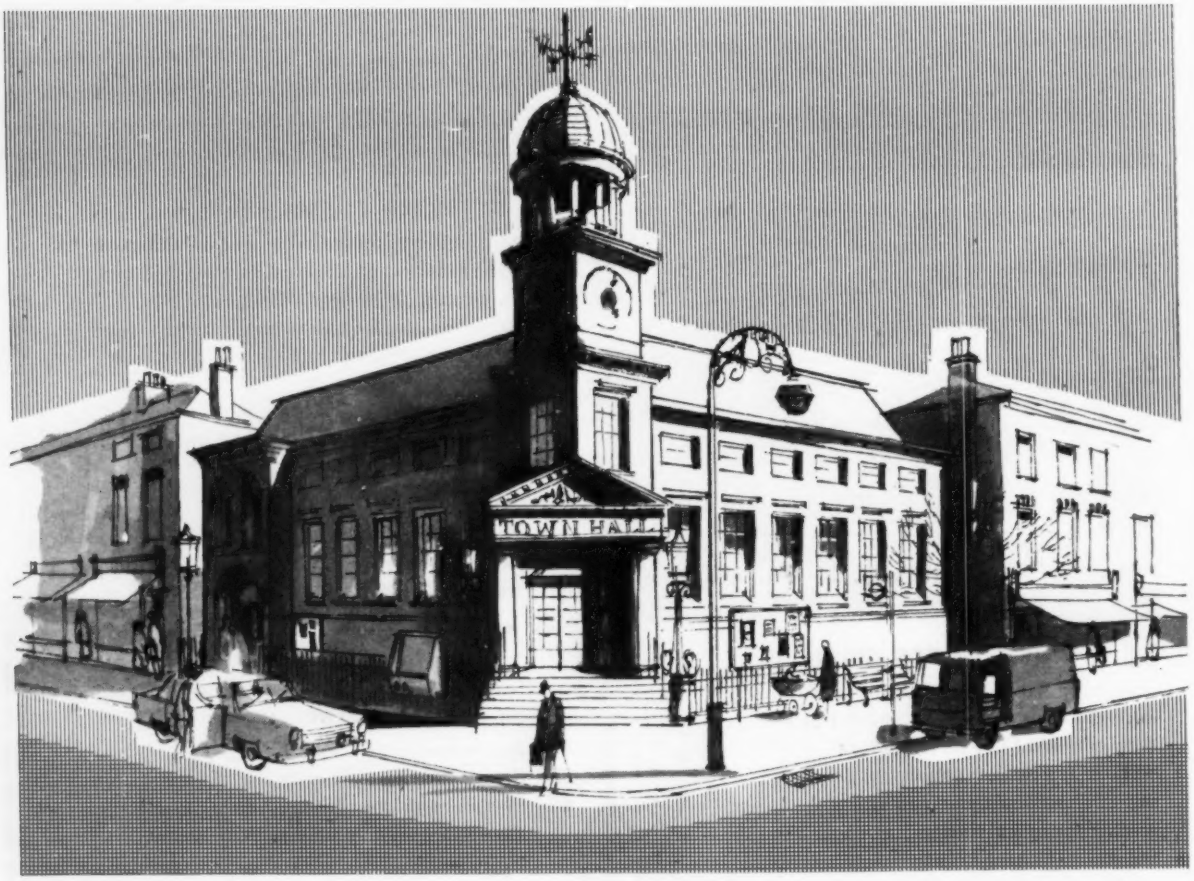
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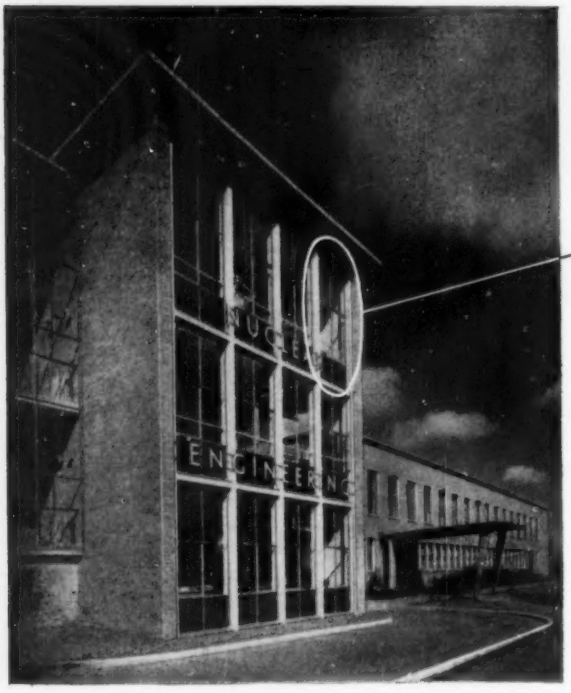
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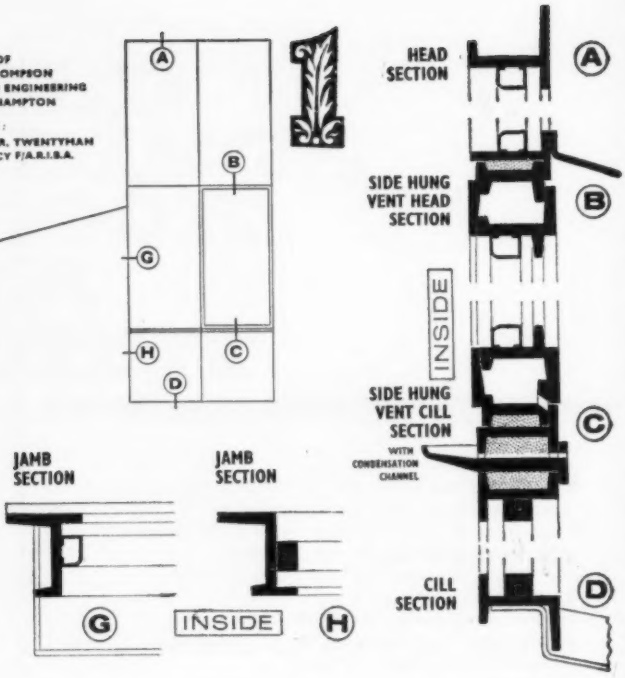
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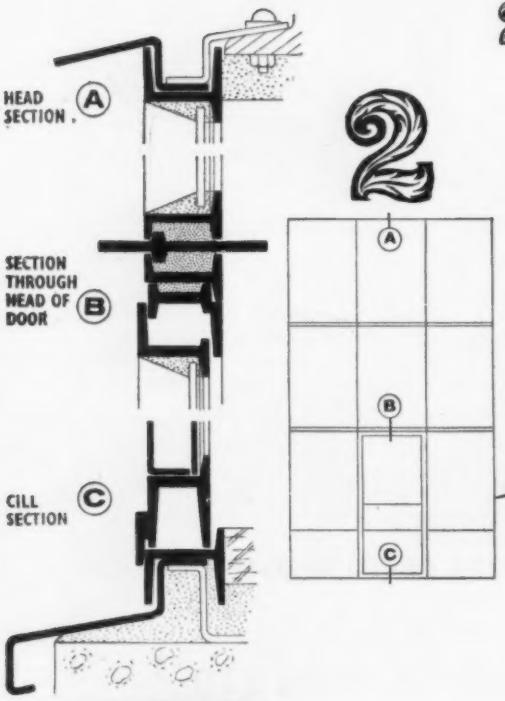


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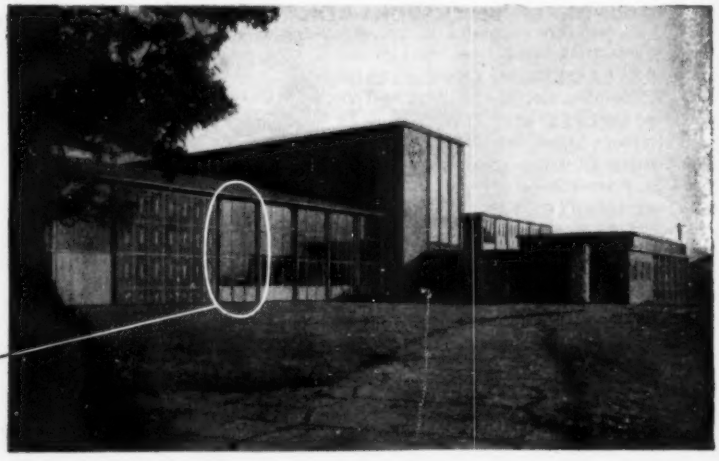


1 The Architect has achieved a bold elevational effect by setting Steel windows, between the verticals and horizontals of his concrete structure — the result has many of the advantages of curtain walling but avoids the usual flat effect.



2 The Architect has used a dark massing effect of brickwork to set-off the glass areas of the Assembly Hall of this school. These Steel windows are coupled horizontally and incorporate outward opening doors in case of emergency.

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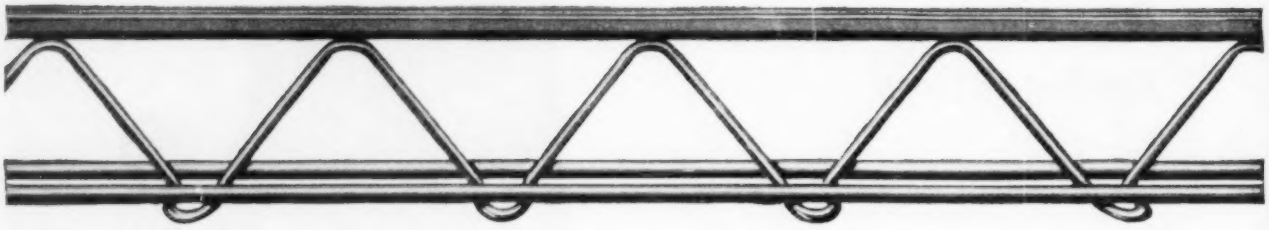


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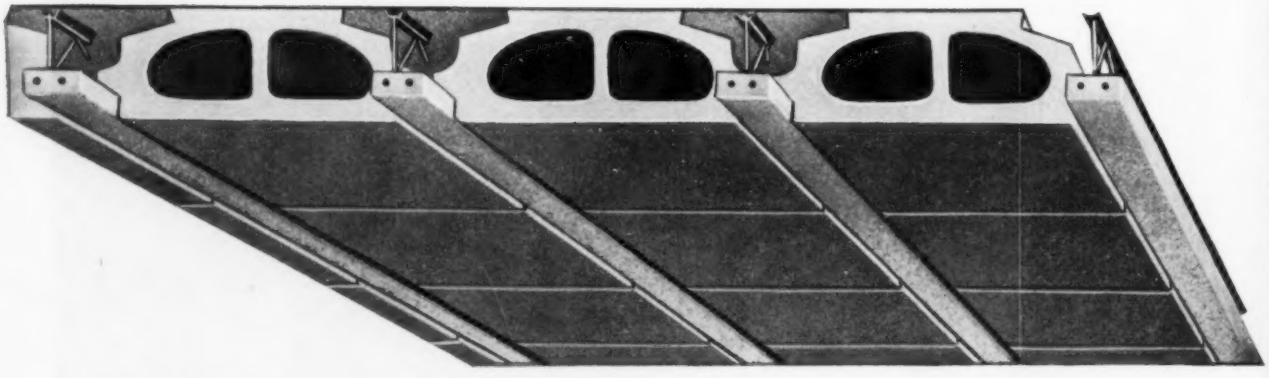
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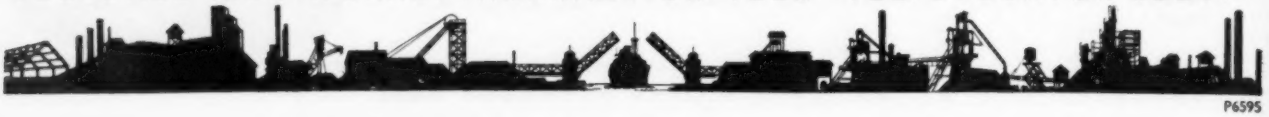


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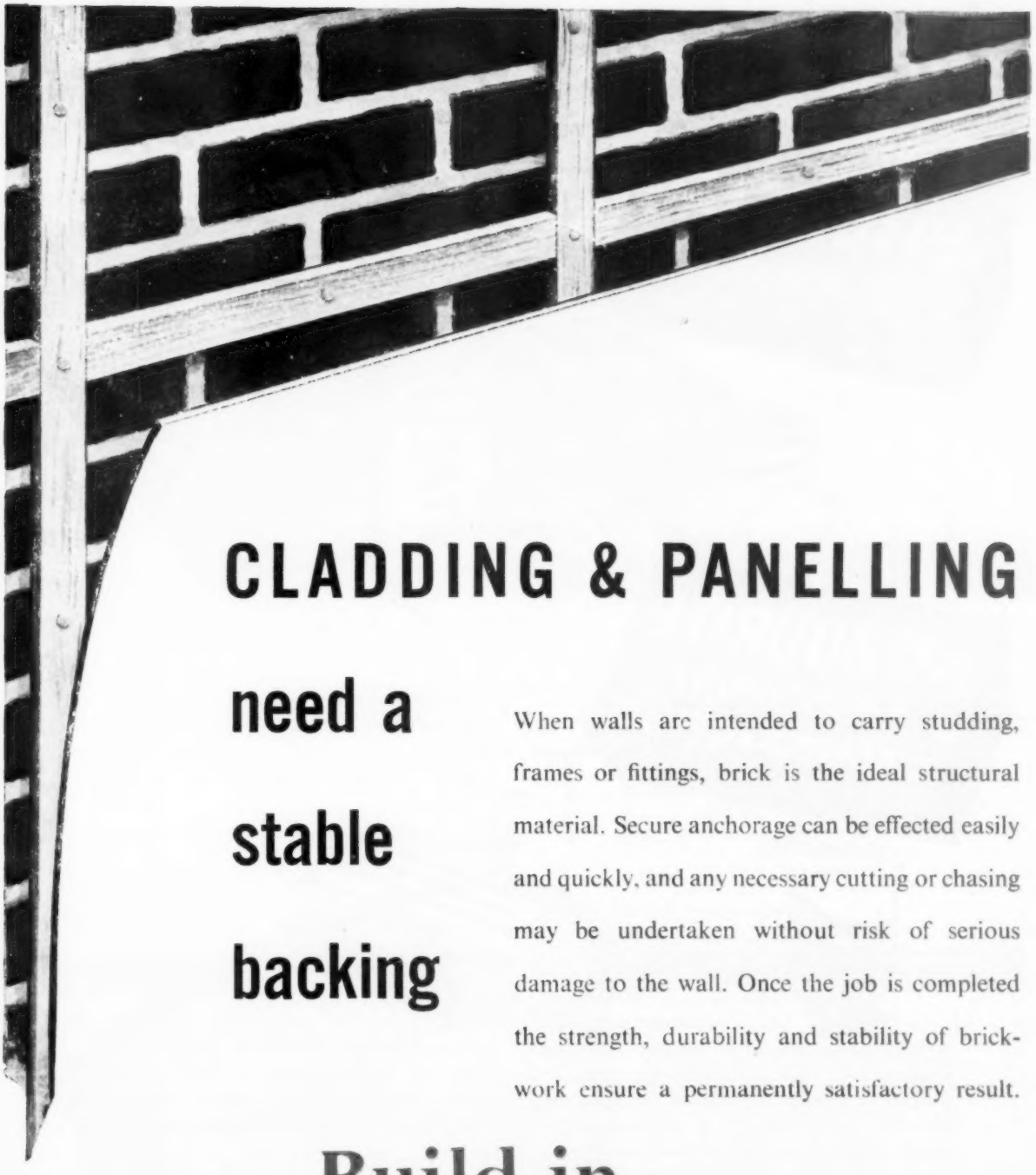
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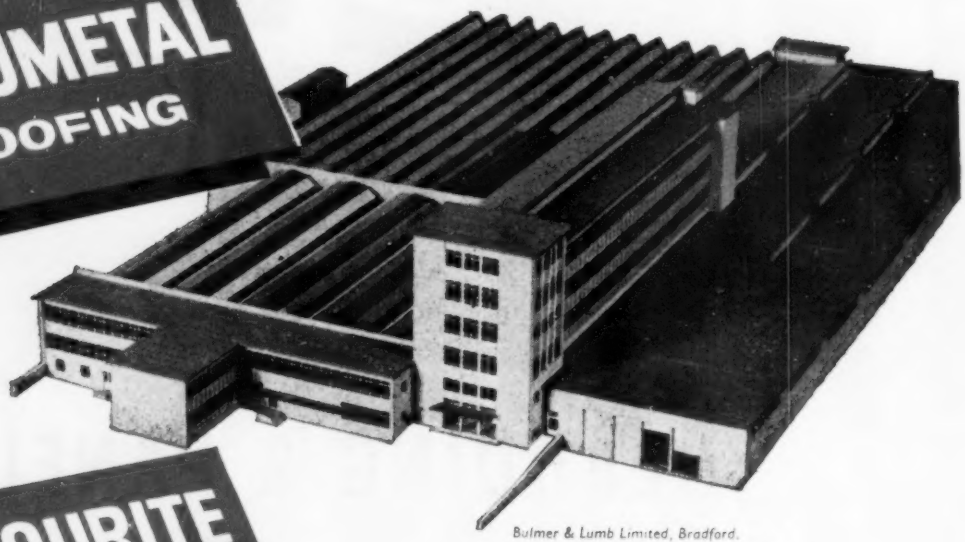
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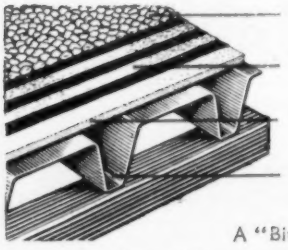
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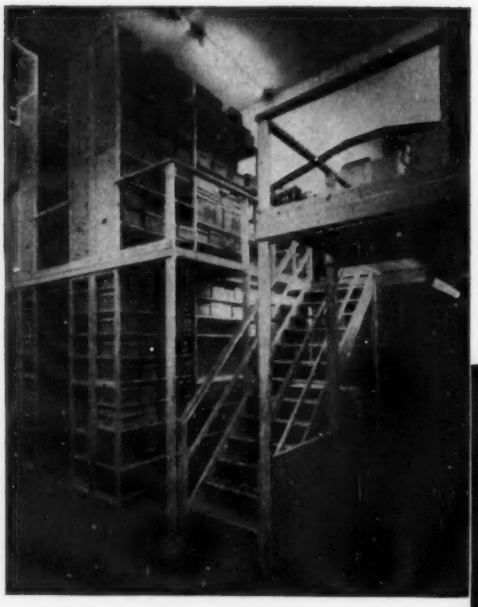
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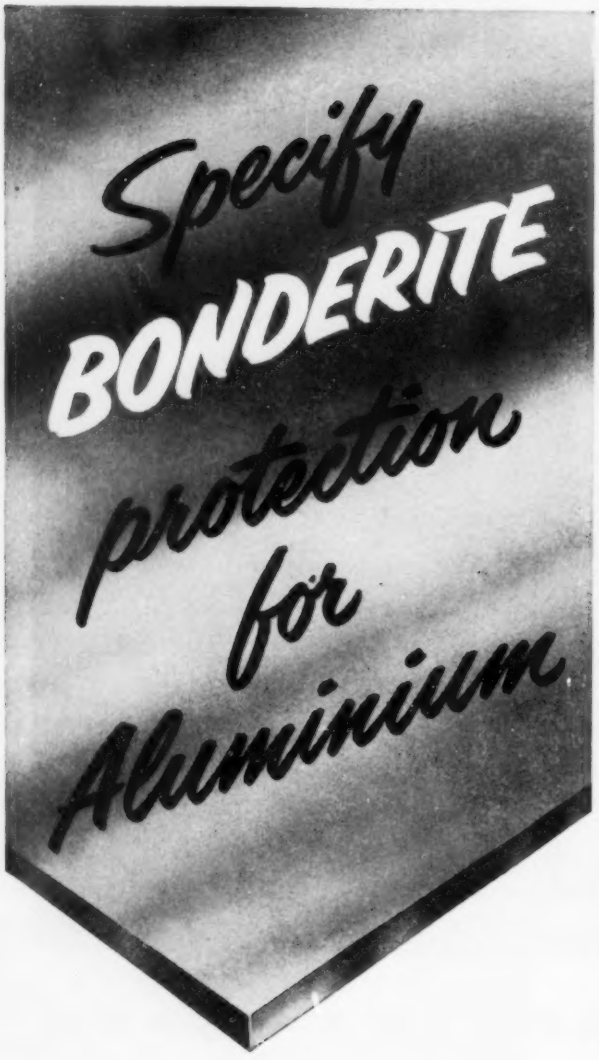
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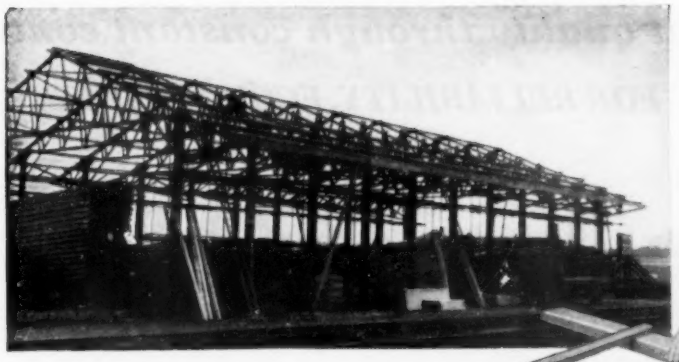
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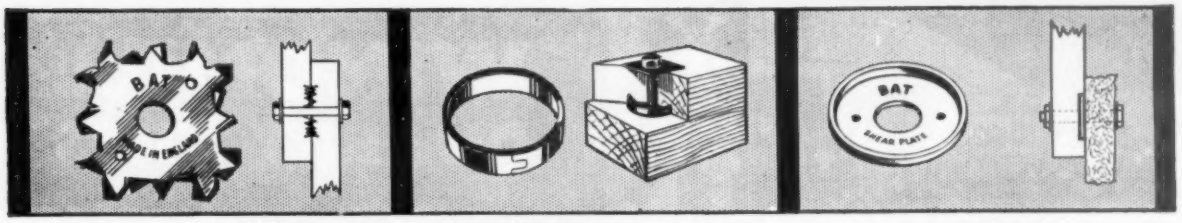


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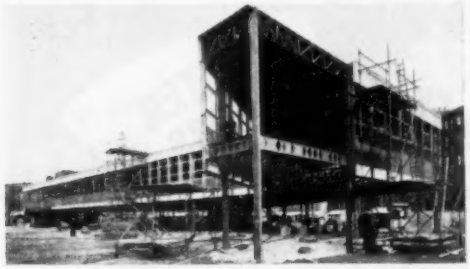


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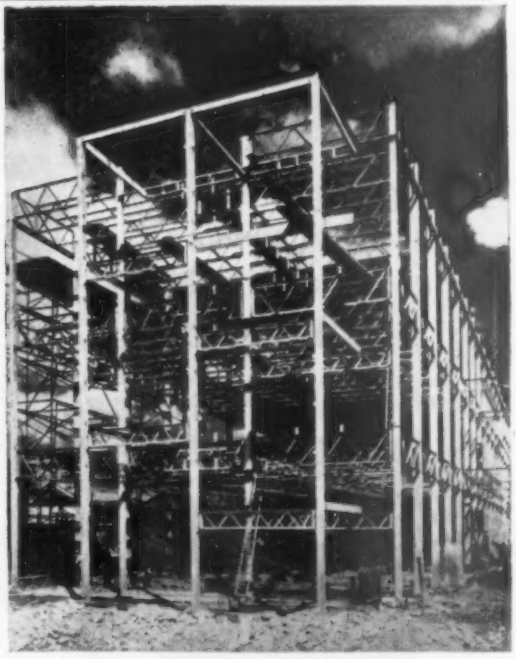
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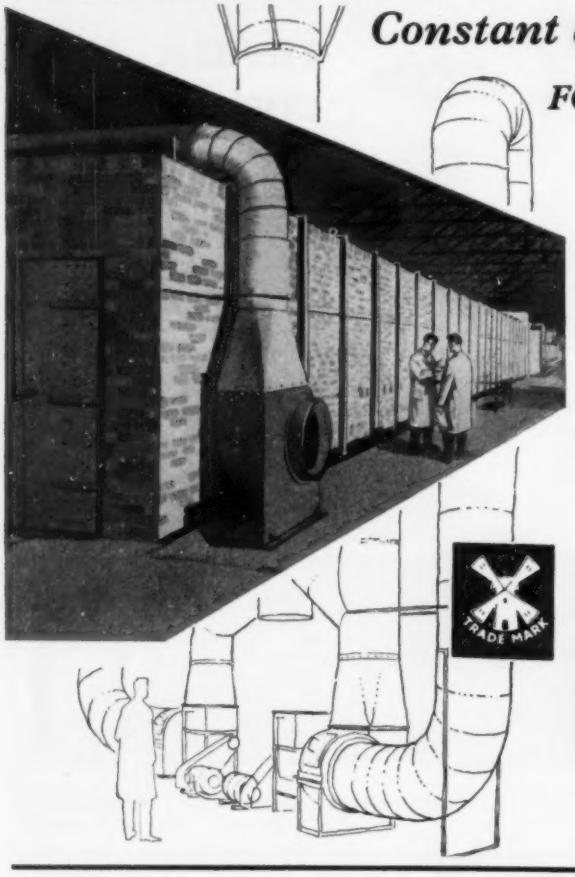
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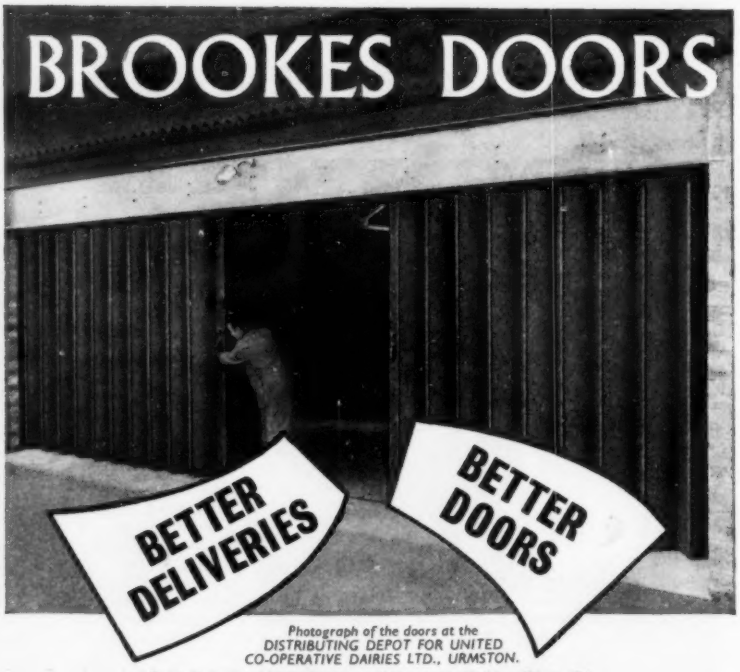
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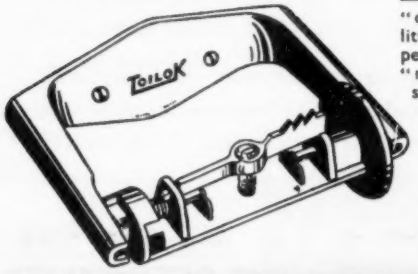
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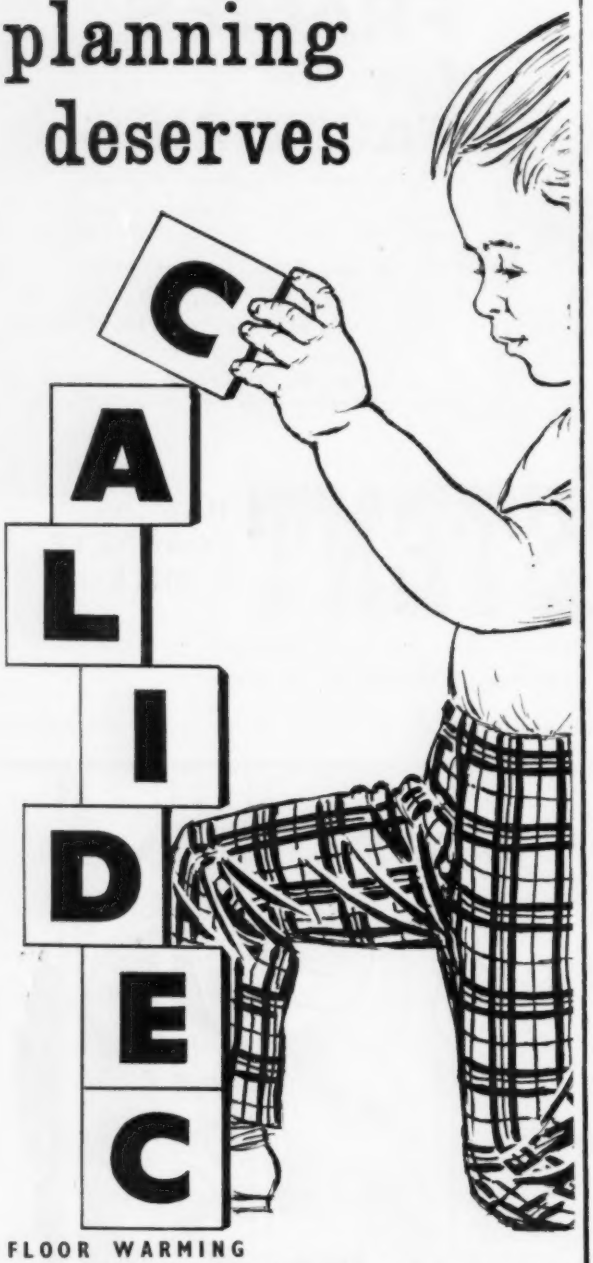
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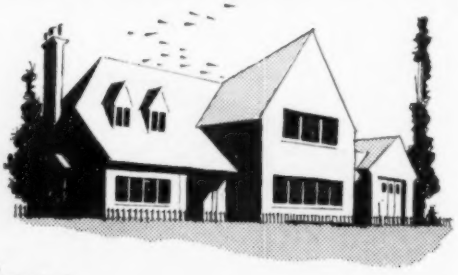
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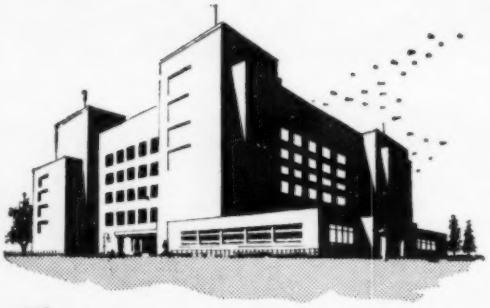
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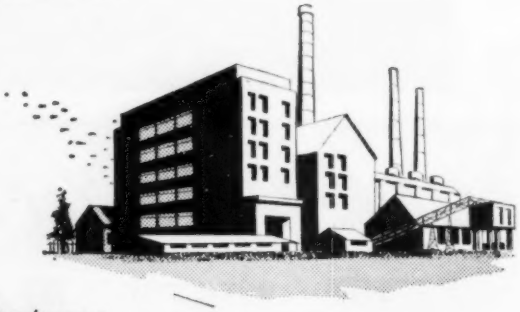
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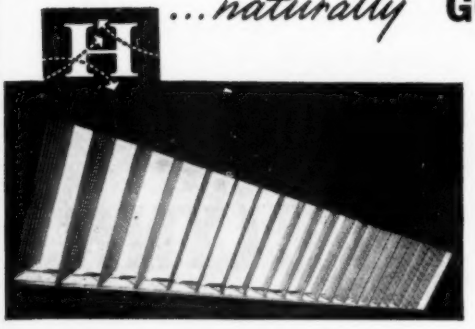
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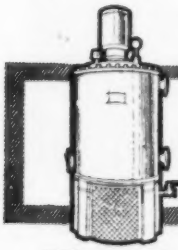
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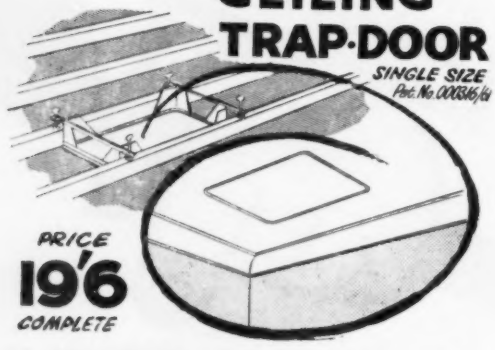
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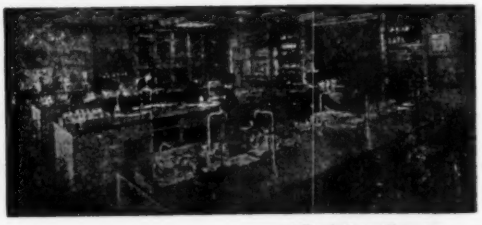
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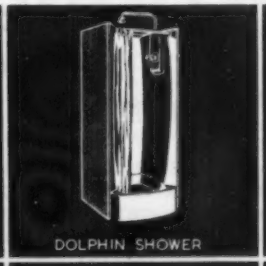
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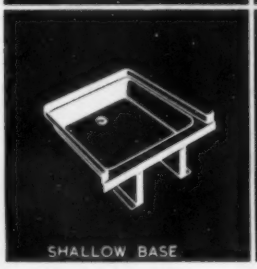
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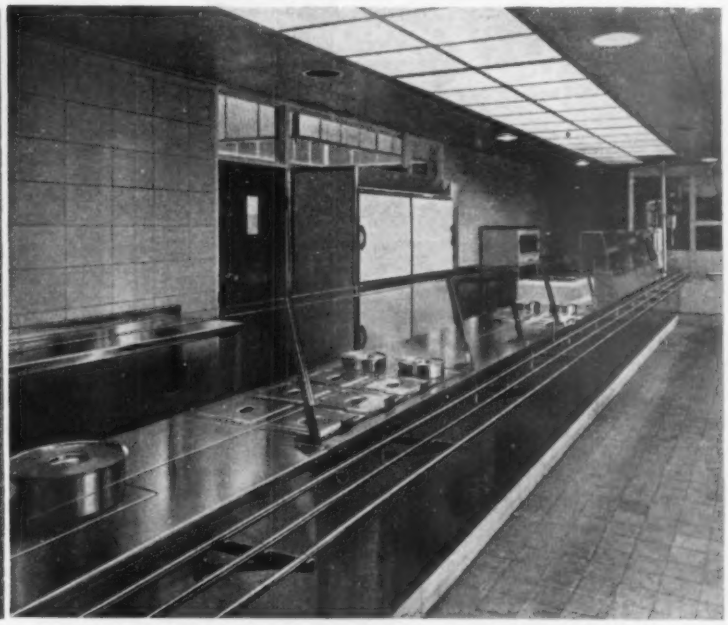

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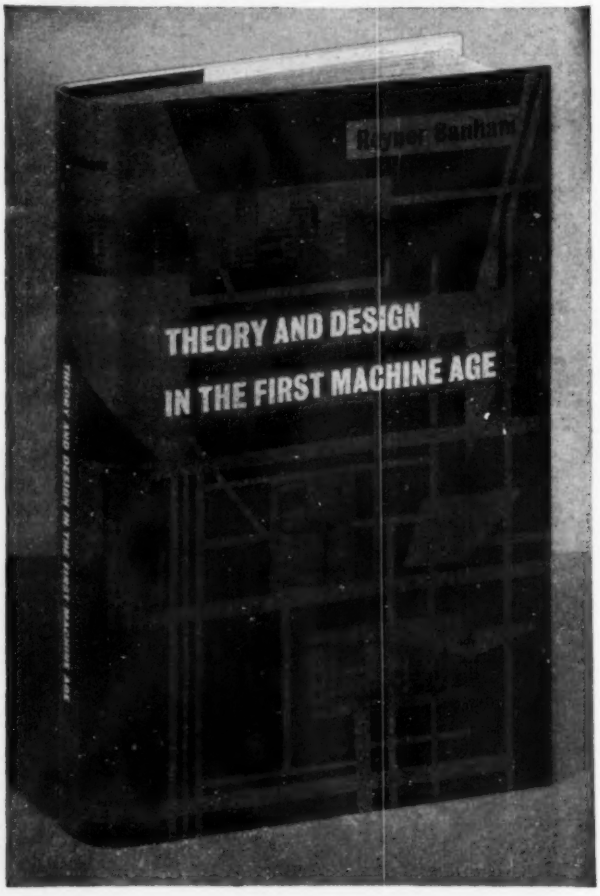
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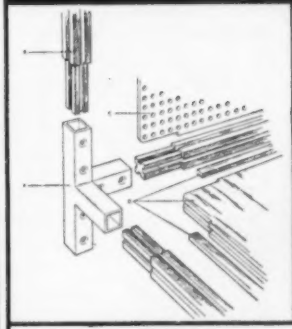
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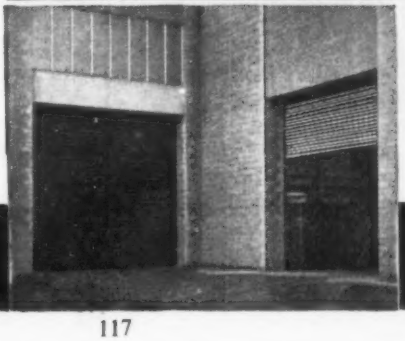
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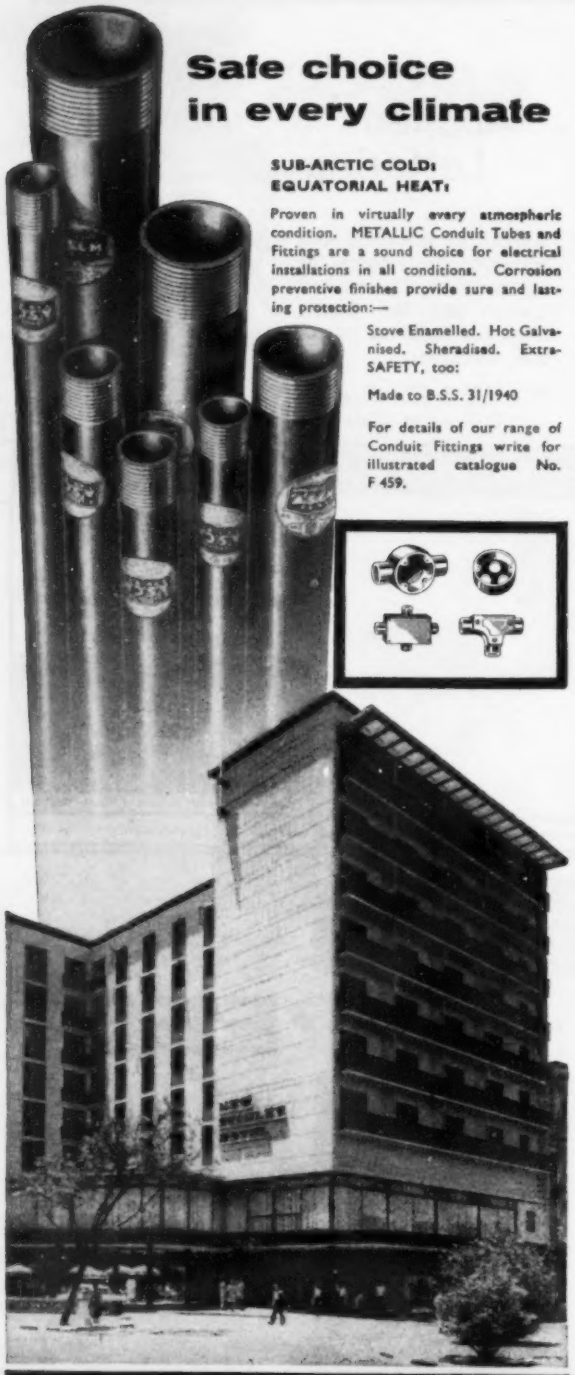
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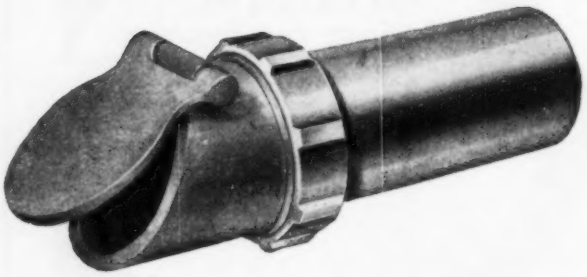
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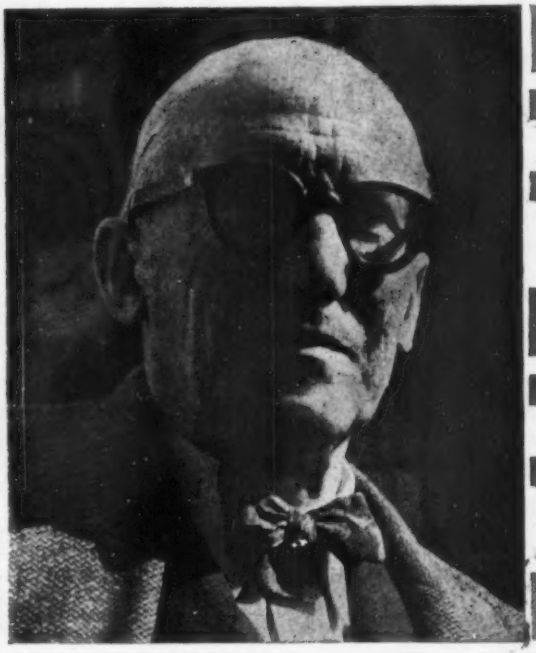


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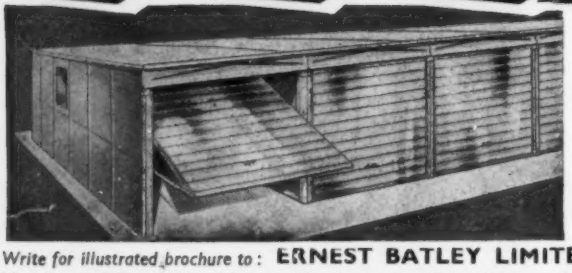
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CLASSIFIED ADVERTISEMENTS

Advertisements should be addressed to the Advertisement Manager, "The Architects' Journal," 9, 11 and 13, Queen Anne's Gate, Westminster, S.W.1, and must reach there by first post Friday morning for inclusion in the following Wednesday's paper.
Replies to Box Numbers should be addressed care of "The Architects' Journal," at the address given above.

AIR-MAIL SERVICE available on request.
In response to requests from a number of Overseas subscribers for air-mail delivery of Public and Official Appointment details and Other Appointments Vacant, we have been pleased to arrange that cuttings of all such classified advertisements appearing in the A.J., shall be despatched by air-mail each week. The cost of this special service to Overseas subscribers will be 5s. for four weeks (1s. 3d. for each additional week) and prepayment should be sent by subscribers wishing to take advantage of this service. The charge we are making represents only the actual cost of the postage involved.

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ARCHITECTURAL ASSISTANTS AND DRAWING OFFICE ASSISTANTS REQUIRED BY AIR MINISTRY H.Q. IN LONDON. Salary (inner London scale) Grade II, £1,048 to £1,220; Grade III, £658—£1,048 (£866 at age 25). Drawing Office Assistant, £404 (age 18) to £695 (men), £731 (women)—starting salary depends on age, qualifications, and experience.

The work includes a wide range of domestic, administrative and technical buildings in varying forms of construction offering imaginative scope. Candidates should have had adequate training and drawing office experience. O.N.C. (Building) an advantage but architectural design ability important for Grade II. Financial assistance and time off may be allowed for recognised courses of study, e.g., R.I.B.A. Five-day week with 18 days' paid leave p.a. initially. Promotion and pension prospects. Some overseas tours with special allowances, in addition to salary. Applicants, who must be natural born British subjects, should write to AIR MINISTRY, W.G.d., LACON HOUSE, THEOBALDS ROAD, LONDON, W.C.1, or to any employment exchange (quoting Kings Cross 837/838), giving age, details of training, qualifications and full particulars of former posts held. Candidates selected will normally be interviewed in London and certain expenses reimbursed. Only candidates selected for interview will be notified. S8273

ADMINISTRATIVE COUNTY OF LEICESTER
(a) PRINCIPAL ASSISTANT ARCHITECT, £1,410—£1,665.
(b) CHIEF ASSISTANT ARCHITECTS, £1,310—£1,410—£1,566.
(c) SENIOR ASSISTANT ARCHITECTS, £1,140—£1,310.
(d) ARCHITECTURAL ASSISTANT, £815—£1,140 (according to qualifications).

Candidates for (a) must be members of the R.I.B.A., have had sound experience and be capable of acting as Group Leaders on an extensive programme of education buildings. Candidates for (b) must be members of the R.I.B.A., have had considerable office experience and be capable of taking charge of contracts from inception to completion. For (c), should be members of the R.I.B.A., have had office experience and be capable of taking charge of small contracts. For (d), should have Intermediate or Final qualifications of the R.I.B.A. and be capable of executing working drawings. Lodging allowance and removal expenses may be paid to a married man. Apply on form obtainable from County Architect, 123, London Road, Leicester. TC7478

BOROUGH OF KIDDERMINSTER
BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT

Applications are invited for the position of ASSISTANT ARCHITECT, Grade III (£960—£1,140). Applicants should have passed the Intermediate Examination of the R.I.B.A. and preferably part of the R.I.B.A. Final Examination.

This appointment will be subject to the Local Government Superannuation Acts and the National Scheme of Conditions of Service.

Applications stating qualifications and experience, accompanied by the name of two referees, should be delivered to the Borough Engineer and Surveyor, 110, Mill Street, Kidderminster, not later than 26th August, 1961.

J. L. EVANS,
Town Clerk.

Town Hall,
Kidderminster.
24th July, 1961. S8776

METROPOLITAN BOROUGH OF CAMBERWELL
ARCHITECTS

Vacancies for Architects in the Borough Architect's Department within a salary range of £855 and £1,525 (Grades A.P.T. II to V of the National Scales). Grade and commencing salary according to qualifications and experience. The work of the department includes design and construction of public buildings, housing estates, including multi-storey construction. Application form from Town Clerk, Town Hall, S.E.5. TC7928

BOROUGH OF SCARBOROUGH
BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT

Applications are invited for the following appointments:—

ASSISTANT ARCHITECT—Grade A.P.T. IV (£1,140—£1,310). Applicants should be Associates of the R.I.B.A.

ARCHITECTURAL ASSISTANT—Grade A.P.T. II (£815—£960). Applicants should have passed the Intermediate R.I.B.A. examination or its equivalent.

Both appointments are subject to the provisions of the Local Government Superannuation Acts, 1937/1953, and to the passing of a medical examination, and will be terminable by one month's notice on either side.

Housing accommodation will be made available for successful applicants, if married, and the Council will pay one-half of the removal expenses incurred.

Applications in envelopes suitably endorsed, stating age, present and previous appointments, training, qualifications and experience, together with the names of two referees, to be delivered to the undersigned not later than 18th August, 1961.

V. FORSHAW,
Borough Engineer and Surveyor.

Town Hall,
Scarborough.
July, 1961. S8774

BOROUGH OF WALLSEND

Applications are invited for the following appointments to the staff of the Borough Surveyor.

ARCHITECTURAL ASSISTANT.

Salary will be within Grade A.P.T. III according to qualifications and experience. Candidates should have received appropriate training and have at least five years' experience.

The Council are prepared to assist with housing accommodation for married applicants and removal expenses will be paid.

ENGINEERING ASSISTANT.

Salary in accordance with A.P.T. Grades I or II according to qualifications and experience. Candidates should have received appropriate training and experience.

Applications, stating age, qualifications and details of experience, together with the names of two referees, should reach me by Monday, 21st August.

JOHN STOKER,
Town Clerk.

Town Hall,
Wallsend.
19th July, 1961. S8736

COUNTY BOROUGH OF DUDLEY
BOROUGH ARCHITECT'S DEPARTMENT

Applications are invited from suitably qualified persons for appointment as ASSISTANT ARCHITECTS and QUANTITY SURVEYORS in the Borough Architect's Department in the following salary ranges:

A.P.T. Grade I: £645—£815.
A.P.T. Grade II: £815—£960.
A.P.T. Grade III: £960—£1,140;

and for SENIOR QUALIFIED ASSISTANTS in
A.P.T. Grade IV: £1,140—£1,310.
A.P.T. Grade V: £1,310—£1,480.

Commencing salaries and grading will be determined by qualifications and experience, and applicants are required to pass a medical examination. Appointments are subject to the provisions of the Local Government Superannuation Act and N.J.C. Conditions of Service.

Housing accommodation is available.

Applications, stating age, qualifications, present and past appointments, experience, and the names and addresses of two referees, to reach me before midday on Tuesday, 15th August, 1961.

P. D. WADSWORTH,
Town Clerk.

The Council House,
Dudley,
Worcs. S8760

CITY OF BIRMINGHAM
CITY ARCHITECT'S DEPARTMENT
APPOINTMENT OF SENIOR HOUSING ARCHITECT
SENIOR OFFICERS' SCALE "H" (£2,470 to £2,785)

Applications are invited for the appointment of SENIOR HOUSING ARCHITECT, to be responsible to the City Architect for the Housing Section.

An Architect with outstanding design ability is required with a real enthusiasm for the design, planning and programming of large scale schemes both in the redevelopment areas and on suburban sites. The post offers a considerable scope for the development of new ideas, both on the design side and the employment of new development techniques. The City's housing programme involves a capital expenditure of some £6,000,000 per annum.

The commencing salary will be fixed within the Senior Officers' Scale "H" (£2,470 to £2,785) according to experience of the successful candidate.

Applications, giving age, present position and salary, and details of qualifications and experience, together with the names of two persons to whom reference may be made, should reach the undersigned not later than 25th August, 1961.

A. G. SHEPPARD FIDLER,
City Architect.

Baskerville House,
Civic Centre,
Birmingham, 1. S8797

CITY OF BIRMINGHAM HOUSING MANAGEMENT DEPARTMENT
SILICONE WATERPROOFING SOLUTIONS

The Housing Management Committee is giving consideration to the establishment of an approved list of branded silicone waterproofing solutions for brickwork, etc.

Manufacturers who desire a specific brand to be considered for inclusion in the approved list should apply to the undersigned for a statement of the conditions applicable.

Acceptance on the approved list will be essential before tenders from either manufacturers or other suppliers can be considered.

J. P. MACEY,
Housing Manager.

Bush House,
Broad Street,
Birmingham, 1. S8770

RADNORSHIRE COUNTY COUNCIL
APPOINTMENT OF
CHIEF ARCHITECTURAL ASSISTANT

Applications are invited for the following permanent appointment on the established staff of the County Architect's Department:

CHIEF ARCHITECTURAL ASSISTANT. Salary Grade A.P.T. IV (£1,140—£1,310 p.a.).

The Council have a varied and interesting building programme on hand including new schools, police houses and old people's homes.

The appointment will be subject to the National Scheme of Conditions of Service; to the Local Government Superannuation Acts and to termination by one month's notice in writing by either party.

A lodging allowance, proportion of approved removal expenses and rail fare home every three weeks for a limited period will be paid to a married man appointed to this post.

Applications stating age, qualifications and experience with the names and addresses of two persons to whom reference may be made must be received by the undersigned not later than the 22nd August, 1961.

D. C. S. LANE,
Clerk of the Council.

County Hall,
Llandrindod Wells,
Radnorshire. S8849

SHROPSHIRE

There are vacancies for SENIOR ASSISTANT ARCHITECTS in the County Architect's Department. Salary grade up to £1,310 p.a. N.J.C. Conditions. Five-day week. A disturbance allowance or weekly separation allowance will be payable to a married man taking up the appointment.

Conditions of service and application forms obtainable from Ralph Crowe, A.A.Dipl., A.R.I.B.A., A.M.T.P.I., County Architect, Column House, London Road, Shrewsbury. S8678

COUNTY BOROUGH OF CROYDON

Applications are invited for the following appointments:—

ARCHITECTURAL ASSISTANTS to assist in the Council's extensive and varied building programme. Grades A.P.T. III/IV: £1,005—£1,356.

Good general training necessary. Intermediate qualification not essential. The commencing salary in grade will be fixed according to qualifications and experience of the successful applicant. Pensionable posts. Five-day week. Assistance with housing accommodation will be considered. The Section (H. Thornley, A.R.I.B.A., Principal Architect) is organised on a group basis. Application forms from the Borough Engineer, Town Hall, Croydon. S8772

CITY OF BIRMINGHAM

Applications are invited from enthusiastic and imaginative fully qualified ARCHITECTS for a number of new appointments on the SENIOR OFFICERS' SCALE "C"—£1,560 × £70 (3) × £55 (1)—£1,825 per annum—to take part in a large programme of work being carried out by the CITY ARCHITECT'S DEPARTMENT.

The Architects appointed will be primarily concerned with Comprehensive Housing Development involving multi-storey flats or with educational projects, Schools, etc.

Commencing salaries within the Scale will be according to capabilities and experience.

Pension Scheme. Five-day week. Medical examination.

Applications stating age, present position and salary, qualifications, experience and names of two referees, to reach the undersigned by 25th August, 1961.

A. G. SHEPPARD FIDLER,
City Architect.

Baskerville House,
Civic Centre,
Birmingham, 1. S8798

LANCASHIRE COUNTY COUNCIL
COUNTY ARCHITECT'S DEPARTMENT
ARCHITECTURAL ASSISTANTS
(within the salary range £645—£960 according to experience and ability)

Applications are invited from Architectural Assistants for appointments to the permanent staff of the County Architect's Department, which is engaged on a large and varied programme of major projects.

Applicants should have attained at least Intermediate R.I.B.A. standard and, within this stage of qualification, have a reasonably varied experience.

Application forms and details of appointment obtainable from the County Architect, P.O. Box 26, County Hall, Preston, should be returned by 25th August, 1961. S8841

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require a

Senior architectural assistant

of Inter. R.I.B.A.. standard for a responsible position with a team engaged on interesting industrial building projects.

Applicants should have several years' experience and be capable of taking charge of a project from its initiation to the settlement of final accounts. Experience in the control of staff is desirable.

The position is permanent and pensionable with an attractive salary. A company house will be provided if required and removal expenses will be paid.

Five-day week. Three weeks' annual holiday.

Please write in confidence, giving full details of qualifications and experience to:

Mr. B. G. Tierney, *Technical Personnel Officer, Michelin Tyre Co. Ltd., Stoke-on-Trent, Staffs., quoting Ref. B/634G./AJ.*

SENIOR ARCHITECTS

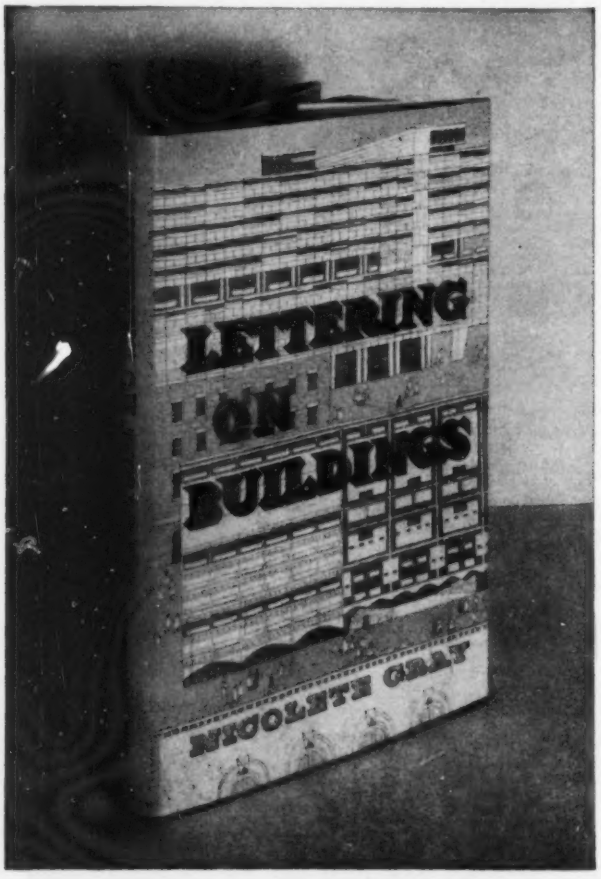
required in large private practice. Successful Applicants will be responsible for new major projects, under Partner direction. Salary will be by arrangement but minimum of

£2,000

per annum

Knowledge of Hospital Planning an advantage, but not essential

Apply in confidence
giving details of
age
experience
etc
to
Box No:-S8726



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LETTERING ON BUILDINGS

THIS IS THE FIRST BOOK to deal with lettering as applied to all kinds of buildings. The author, an internationally acknowledged authority on the history of letter forms, breaks new ground in this study of the relationship between lettering and architecture itself: her aim is no less than to create a new approach to the subject, to get away from doctrinaire ideas. She first examines and illustrates the history and development of letter forms from Roman times to our own day. This examination leads her to outline a comprehensive theory of lettering which may serve as a starting point, a new way of looking at problems and possibilities for the present and the future. Her theoretical approach is illustrated by, and throws light on, many existing nineteenth- and twentieth-century examples of all kinds of lettering *in situ;* and she thus demonstrates how present-day architects and designers can successfully tackle the task of integrating lettering on and in all kinds of buildings. 'My hope for this book', says the author, 'is that it may help to bring lettering back into the full life of the modern movement. . . .'

Size of book 9 x 5½ *in.* 192 *pages with* 270 *halftone and line illustrations* **25s.** *net, postage* **1s. 2d.**

The Architectural Press, 9-13 Queen Anne's Gate, S.W.1

EAST RIDING OF YORKSHIRE COUNTY COUNCIL

Applications are invited for the appointment of a CHIEF QUANTITY SURVEYOR on the staff of the County Architect. The salary will be in accordance with Scale "A" (£1,340—£1,565).

Applicants must be members of the Royal Institution of Chartered Surveyors and have had wide experience in the preparation of estimates, bills of quantities, cost analysis, adjustment of final accounts and other work incidental to such an appointment, including the control of staff.

Applications, giving particulars of age, past and present appointments with salaries, details of experience, together with the names of three referees, should be sent to the County Architect, County Hall, Beverley, not later than Thursday, 31st August, 1961.

THOMAS STEPHENSON,
Clerk of the County Council.
8790

SCOTTISH SPECIAL HOUSING ASSOCIATION LTD.
ARCHITECTURAL DIVISION
APPOINTMENT OF ARCHITECT

Applications are invited from qualified Architects for the following appointment on the permanent staff:—

ARCHITECT, Grade II—Salary Scale £895—£1,385.

The post is superannuable under the Local Government Superannuation Acts, and placing will be related to experience.

The Association is a Government sponsored and financed body, providing houses and flats throughout Scotland as directed by the Secretary of State.

The Association has at present a large and interesting programme comprising a number of major housing projects, including central redevelopment in Glasgow and other towns, together with an important programme of work in connection with Glasgow's "Overspill." Designs for mixed development layouts, including multi-storey blocks of flats up to 26-storeys in height, are being prepared, and cost analysis techniques are being used in the preparation of drawings. The post advertised offers considerable valuable experience and opportunities for persons interested in civic design, landscaping and three dimensional planning of urban developments.

The Headquarters of the Association are in Edinburgh where housing accommodation could be provided if required.

Application forms with full details of the appointment from Harold E. Buteux, A.R.I.B.A., A.M.T.P.I., A.R.I.A.S., Chief Technical Officer, Scottish Special Housing Association Ltd., 15/21, Palmerston Place, Edinburgh, 12. S8740

UNIVERSITY OF DURHAM

Applications are invited for the post of READER IN BUILDING SCIENCE tenable in the Newcastle Division of the University. It is desirable that candidates should have a Science degree or a degree in Architecture, and relevant research experience is essential. Salary in accordance with scale (£2,025 × £75—£2,400 × £25—£2,425 per year) with family allowance and membership of F.S.S.U. Further particulars can be obtained from the undersigned with whom applications (12 copies) containing the names of not more than three referees should be lodged not later than 21st September, 1961. (Candidates outside the British Isles may submit one copy only.)

DEPUTY REGISTRAR.

University Office,
1A, Kensington Terrace,
Newcastle upon Tyne, 2.
21.7.61. S8743

LANCASHIRE COUNTY COUNCIL
COUNTY ARCHITECT'S DEPARTMENT
ASSISTANT ARCHITECTS, A.P.T. V (£1,310—£1,480). (Starting salary according to experience.)

Applications are invited from qualified Architects of initiative, keen on design and modern constructural methods, to work on a large and varied programme.

If appointed, applicants will be able to claim a disturbance allowance up to a maximum of £125, a facility offered by the County Council to cover the expenses of removal and other associated costs.

Application forms and details of appointment obtainable from the County Architect, P.O. Box 26, County Hall, Preston, returnable by the 25th August, 1961. S8840

LANCASHIRE COUNTY COUNCIL
COUNTY ARCHITECT'S DEPARTMENT
ASSISTANT ARCHITECTS, A.P.T. IV (£1,140—£1,310). (Starting salary according to experience.)

Applications are invited from qualified Architects of initiative, keen on design and modern constructural methods, to work on a large and varied programme.

If appointed, applicants will be able to claim a disturbance allowance up to a maximum of £125, a facility offered by the County Council to cover the expenses of removal and other associated costs.

Application forms and details of appointment obtainable from the County Architect, P.O. Box 26, County Hall, Preston, returnable by the 25th August, 1961. S8842

LANCASHIRE COUNTY COUNCIL
COUNTY ARCHITECT'S DEPARTMENT
SENIOR ASSISTANT ARCHITECTS
(N.J.C. Scale "B," £1,505—£1,670)

Applications are invited from experienced Architects for posts on the permanent staff. The County Council has a large and extremely varied building programme, and posts will be filled by men of initiative, imagination and a flair for sensitive design.

Applicants are expected to be Registered Architects, as well as Associates of the Royal Institute of British Architects and, if appointed, will be able to claim a disturbance allowance up to a maximum of £125, a facility offered by the County Council to cover the expenses of removal and other associated costs.

Application forms and conditions of appointment are obtainable from the County Architect, P.O. Box 26, County Hall, Preston, returnable by the 25th August, 1961. S8839

METROPOLITAN BOROUGH OF CAMBERWELL
APPOINTMENT OF ARCHITECTS IN BOROUGH ARCHITECT'S DEPARTMENT

The Borough Architect, having an interesting programme of housing and public buildings, and a senior staff producing good contemporary work requires Assistants from good Schools of Architecture to back them up.

Newly elected Associates may expect a salary starting at £1,005 per annum and more for those with several years' experience; those who lack only the Professional Practice examination would commence at £840 to £855 per annum.

To arrange an interview write to Town Clerk, Town Hall, S.E.5. S8848

NORTH RIDING COUNTY COUNCIL

Opportunities for applicants of initiative and drive, and who appreciate a five-day week in good working conditions, for dealing with a varied programme of work for all Committees of the Council.

Position within the salary range shown below will be given according to ability and qualifications.

(*a*) ASSISTANT ARCHITECTS. Grade A.P.T. IV/V, £1,140—£1,480. Must have passed the Final Examination of the R.I.B.A.

(*b*) ARCHITECTURAL ASSISTANTS. Grade A.P.T. III, £960—£1,140. Must have passed Part I of the Final Examination of the R.I.B.A.

(*c*) ARCHITECTURAL ASSISTANTS. Grade A.P.T. II, £815—£960. Must have passed the Intermediate Examination of the R.I.B.A.

Application forms may be obtained from the County Architect, R. Allport Williams, M.B.E., B.Arch., F.R.I.B.A., County Hall, Northallerton. Completed forms should be returned to the Clerk of the County Council, County Hall, Northallerton, by the 25th August, 1961. S8836

LONDON COUNTY COUNCIL
HISTORIC BUILDINGS SECTION OF ARCHITECT'S DEPARTMENT

ARCHITECT to advise on applications under the planning acts affecting "listed" buildings; collection of historical information; dealing with Building Preservation Orders; attendance at public enquiries. Salary up to £1,500.

ARCHITECT OR BUILDING SURVEYOR for Maintenance. Salary up to £1,250.

HISTORIAN with Honours degree to investigate history of "listed" buildings. Salary up to £960.

DRAUGHTSMAN for measured drawings and surveys. Salary up to £960.

TECHNICAL ASSISTANT for maintenance work. Salary up to £960.

Forms and particulars from Hubert Bennett, F.R.I.B.A., Architect to the Council (EK/A/2228/8), County Hall, S.E.1. 8837

SURREY COUNTY COUNCIL
COUNTY PLANNING DEPARTMENT

Applications are invited for the following posts:

AT HEADQUARTERS, KINGSTON-UPON-THAMES (from 2nd October, 1961)

SENIOR PLANNING ASSISTANT (A.P.T. IV, £1,140—£1,310 plus London Allowance). To form one of three new teams to be engaged upon the analysis of County Council requirements and the finding of sites. A final qualification in Town and Country Planning is essential. Casual, possibly essential car user allowance.

SENIOR PLANNING ASSISTANT (A.P.T. III/IV, £960—£1,310 plus London Allowance). The candidate appointed will lead one of three teams dealing with the Headquarters aspect of Development Control in two Areas of the County. A final qualification in Town and Country Planning is essential. Essential car user allowance.

AT SOUTH-EAST AREA PLANNING OFFICE, REIGATE

PLANNING ASSISTANT (A.P.T. III, £960—£1,140). Preference will be given to candidate with experience in a Planning Office, who has at least passed, or been exempted from, the Intermediate Examination of the Town Planning Institute, and who possesses or is studying for the final qualification. Essential car user allowance.

Applications endorsed "Confidential—Vacancies," stating age, qualifications and experience with details of present post and salary and the names of two referees, should be sent to the County Planning Officer, "Elmhurst," Penrhyn Road, Kingston-upon-Thames, by 21st August, 1961. 8861

METROPOLITAN BOROUGH OF BERMONDSEY
BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT
ASSISTANT ARCHITECT

Applications are invited from persons under 51 years of age on 28th August, 1961, for the permanent appointment of Assistant Architect, Grade A.P.T. III-IV (£960—£1,310) plus £45 London weighting, commencing salary according to experience. Applicants must have passed Final R.I.B.A. examination and should have experience in multi-storey dwellings.

Applications, on forms to be obtained from the undersigned, to be submitted by 28th August, 1961.

J. S. LAMBERT,
Town Clerk.

Municipal Offices,
Spa Road, S.E.16 S8845

SURREY COUNTY COUNCIL

Applications invited for appointment of ASSISTANT ARCHITECTS on Grade IV (£1,140—£1,310 p.a. plus £45 p.a. London allowance).

Must be A.R.I.B.A. and have had experience in preparation of drawings and specifications, and be capable of assuming responsibility for medium to large scale contracts.

Full details, present salary and three copy testimonials, preferably one from present employer, to County Architect, County Hall, Kingston, as soon as possible. S8833

METROPOLITAN POLICE
ARCHITECT AND SURVEYOR'S DEPARTMENT

Applications are invited for the following positions in connection with the design and erection of Police Stations, Single Men's Hostels, Police Housing and Magistrates' Courts and schemes for major alterations to various Police buildings within the Metropolitan Police District.

ASSISTANT ARCHITECTS

Salary: £991 per annum at age 25, rising by annual increments to £1,490 per annum. (Maximum salary on entry £1,318 per annum at age 34 or over.)

Qualifications: Must be registered Architects.

LEADING ARCHITECTURAL ASSISTANTS

Salary: £1,048 per annum rising by annual increments to £1,220 per annum.

Qualifications: Intermediate R.I.B.A., H.N.C. or equivalent.

ARCHITECTURAL ASSISTANTS

Salary: £658 per annum at age 21 rising by annual increments to £1,048 per annum. (Maximum salary on entry £950 per annum at age 28 or over.)

Qualifications: O.N.C., Intermediate R.I.B.A. or equivalent.

J. INNES ELLIOTT, B.Arch., F.R.I.B.A.,
Chief Architect & Surveyor.

Applications, giving details of training and experience, to: Chief Clerk, Architect and Surveyor's Department, Office of the Receiver for the Metropolitan Police District, Tintagel House, Albert Embankment, S.E.1. S8846

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TODAY'S SLATE AND TOMORROW'S WINCILATE

Architectural Assistant

Architectural Assistant required in Company Architect's Department to work on an interesting industrial and commercial building programme. Good working conditions. Fares paid for evening classes. Five day week, pension scheme. Applicants with three years' office experience are asked to write giving particulars of age, experience and salary required to :—

Company Architect
COATES BROTHERS & CO. LTD.
ST. MARY CRAY, Nr. ORPINGTON, KENT

ARCHITECTS

SENIOR ARCHITECTS
ASSISTANT ARCHITECTS
ARCHITECTURAL DRAUGHTSMEN

CRUDENS Architects' Departments in Musselburgh and Glasgow have vacancies for assistants with ability, initiative and a progressive outlook for interesting and varied work on large scale projects requiring a high standard of design.

Salaries will be commensurate with qualifications, experience and ability. Staff Pension Fund. Applications, which will be treated in strictest confidence, should be made to :

G. BOWIE, D.A. (Edin.)
A.R.I.B.A., A.R.I.A.S.
Chief Architect,
Crudens Limited,
MUSSELBURGH.

Telephone : MUS 2244.

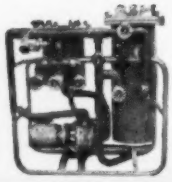
ARCHITECTS

salary scale

£800 — £1000 — £1500

according to experience and ability. Senior appointments eligible to partake in Bonus scheme. Five day week with Three weeks holiday per annum. Pension scheme for Senior Staff in addition to Government G.P. scheme. Vacancies at Cardiff, Swansea and Shrewsbury. Write please, giving full information re age, qualifications, experience, appointments held etc., to the

Secretary
Sir Percy Thomas & Son
10, Cathedral Road
Cardiff.



FOR SWIMMING POOLS OF ALL SIZES YOU STILL NEED THE FINEST FILTRATION

RUTHERFORD DIATOMITE FILTERS and accessories

FILTERS
★
SKIMMER WEIRS
★
VACUUM SWEEPERS

For efficient swimming pool filtration, specify Rutherford Diatomite Filters, the finest obtainable—in sizes suitable for pools of every capacity down to the smallest. An exceptional degree of water clarity is obtained, making it unnecessary to empty the pool during the summer. The most up-to-date Vacuum Sweepers and Skimmer Weirs, for keeping the pool floor and water surface free from dust, etc., are available for most sizes. Each filter is a complete, easily installed unit, with electric motor and pump, and all necessary valves. For larger installations, an engineer is sent to give on-the-spot advice.

RUTHERFORD Engineering CO., LTD.
The leading Filtration Specialists
BATTLE SUSSEX
Telephone: Battle 468 (4 lines)

UNIVERSITY OF HONG KONG
LECTURESHIP IN ARCHITECTURE

Applications are invited for the above-mentioned post. Applicants should be graduates and A.R.I.B.A., with experience in architectural practice. Evidence of ability to teach Building Construction and Materials, to demonstrate simple building techniques in the workshop, and to assume from time to time the duties of Studio Master in any year, should be submitted with applications.

Annual salary (superannuable) is £2,150 × £75—£2,825 (man) or £1,600 × £60—£2,140 (woman). The equivalent of income tax in the Colony is comparatively low.

First-class sea passages are provided for expatriate staff and their families on first appointment and leaves. Accommodation at reasonable rental is provided for those recruited from abroad.

Further particulars and information as to the method of application may be obtained from the Secretary, Association of Universities of the British Commonwealth, Marlborough House, Pall Mall, London, S.W.1.

Applications close, in Hong Kong and London, on 8th September, 1961. 8852

BURGH OF MOTHERWELL AND WISHAW
ARCHITECTURAL AND HOUSING DEPARTMENT

Applications invited from suitably qualified persons for the following superannuated appointments:

SENIOR ARCHITECTURAL ASSISTANTS (two posts), A.R.I.B.A., qualification—salary scale £1,200—£1,300 per annum in each case.

The Department has many projects in hand including an extensive redevelopment programme which will give full scope for imaginative design and planning. A five-day week is in operation. Full particulars giving details of age, experience and qualifications should be sent to the Director of Housing, Motherwell House, Motherwell, within 14 days from the date of appearance of this advertisement.

ALEXANDER McINTOSH,
Town Clerk.

Town Hall,
Motherwell.
28th July, 1961. 8824

WESTERN REGIONAL HOSPITAL BOARD
(SCOTLAND)
DEPUTY CHIEF ARCHITECT

Applications are invited for the post of Deputy Chief Architect, salary scale £1,965 × £100 (4)—£2,365 per annum. The appointment is superannuable and is subject to the appropriate Whitley Council Conditions of Service. The successful candidate will be required to pass a medical examination.

Candidates must be Registered Architects who have passed the requisite Examinations.

Applications, giving age, details of professional training, qualifications, experience and past and present appointments, present salary and other relevant details, should be sent, together with names of three referees, to the Secretary, Western Regional Hospital Board (Scotland), 351 Sauchiehall Street, Glasgow, C.2, from whom further information may be obtained. 8850

LANCASHIRE COUNTY COUNCIL
PLANNING DEPARTMENT

SECTIONAL PLANNING OFFICER required at the Bury Divisional Planning Office, A.P.T. V (£1,310—£1,480 per annum). Candidates should possess an appropriate University Degree and/or a recognised qualification in architecture, civil engineering, surveying or planning. Experience in the preparation of Town Maps and schemes for areas of comprehensive redevelopment is desirable and candidates should possess a sound knowledge of town and country planning legislation.

Disturbance allowances and removal expenses to a maximum of £125 may be granted in approved cases.

Applications giving age, qualifications, present appointment, experience, etc., and two referees, to the County Planning Officer (S), East Cliff County Offices, Preston, by the 21st August, 1961. 8856

SWADLINCOTE URBAN DISTRICT COUNCIL
ENGINEER AND SURVEYOR'S DEPARTMENT

Applications are invited for the post of ARCHITECTURAL ASSISTANT, Grade A.P.T. II, £815—£960. Applicants must have passed the Intermediate R.I.B.A. examination or its equivalent and had good architectural experience. Five-day week.

Applications stating age, present position and salary, previous positions, qualifications and full details of experience, together with the names and addresses of two referees should reach me not later than the 5th September, 1961.

Housing accommodation will be considered.

The appointment will be subject to the National Conditions of Service, to the Local Government Superannuation Acts and to one month's notice in writing on either side.

Canvassing will disqualify.

C. D. HULL,
Clerk of the Council.

Clerk's Office,
Swadlincote. S8857

BOROUGH OF EALING
TOWN PLANNING ASSISTANT, A.P.T. IV
(£1,185—£1,355 inclusive) with recognised town planning qualification. Experience necessary.

Full particulars and application form from: Borough Surveyor, Town Hall, Ealing, W.5.

Closing date: 21st August, 1961.

E. J. COPE BROWN,
Town Clerk.
S8854

METROPOLITAN BOROUGH OF BATTERSEA

Applications are invited for the following permanent appointments:—

(1) ASSISTANT BUILDING SURVEYOR, A.P.T. Grade III (£960—£1,140).
(2) ASSISTANT BUILDING SURVEYOR, A.P.T. Grade II (£815—£960).
(3) JUNIOR ASSISTANT BUILDING SURVEYOR, General Division (£260—£780).
(4) JUNIOR ASSISTANT QUANTITY SURVEYOR, General Division (£260—£780).

London weighting is payable in addition—£40 per annum (at age 26 and over) for grades below A.P.T. III and £45 per annum for A.P.T. III.

Commencing salaries will be according to qualifications and experience. Local Government experience is not essential.

Preference will be given to applicants for posts (1) and (2) who are taking examinations of the Royal Institution of Chartered Surveyors (Building Sub-division).

Posts (3) and (4) are for office juniors and offer an opportunity for training as building surveyor and quantity surveyor respectively.

The appointments are subject to the Local Government Superannuation Acts, 1937-1953.

Further particulars and application forms are obtainable from the Borough Engineer and Surveyor, Town Hall, Battersea, S.W.11.

Closing date 21st August, 1961

C. M. W. S. FREEMAN,
Town Clerk.
S8826

CUMBERNAULD NEW TOWN
ASSISTANT CHIEF PLANNING OFFICER

Applications are invited for this important post from persons attracted to the conception of this compact, high density, urban development. Applicants must hold the qualifications of A.R.I.B.A. and A.M.T.P.I.

The successful applicant will be responsible, under the general direction of the Chief Architect and Planning Officer, for all aspects of the planning of the new town, and will work very closely with his colleagues concerned with the other professional and technical aspects of this project.

Salary on Grade A.P.T. X (£1,865—£2,120) with placing according to experience.

Superannuation, subject to medical examination. Assistance with housing where appropriate.

Application forms, which may be obtained from the General Manager, Cumbernauld House, Cumbernauld, Glasgow, should be returned completed not later than Wednesday, 30th August, 1961. S8853

JOINT COUNTY COUNCIL OF MORAY AND NAIRN
APPOINTMENT OF ASSISTANT ARCHITECT

Applications are invited for the post of Assistant Architect in the County Architect's Department. Applicants must be Associate Members of the R.I.B.A. The person appointed will be engaged mainly on local authority housing and education building and will be given every opportunity of acquiring responsible experience in the preparation of plans and subsequent supervision of the erection of these types of buildings. The salary for the post, which is superannuable, will be in accordance with Grades "C" and "D" of the Administrative Division of the J.I.C. Scheme of Salaries, viz. £1,055 to £1,200 with placing according to qualifications and experience. Suitable housing accommodation is available if required. The successful applicant will provide a car and will be entitled to a car allowance in accordance with the approved scale of allowances. Applications should be lodged with the County Clerk, County Buildings, Elgin, not later than 21st August, 1961. 8820

BOROUGH OF REDCAR
BOROUGH ENGINEER'S DEPARTMENT
APPOINTMENT OF SENIOR
ARCHITECTURAL ASSISTANT, Grade A.P.T. IV

Applications are invited for the appointment of Senior Architectural Assistant from persons qualified by examination for Associateship of the Royal Institute of British Architects.

Redcar is a progressive and developing seaside borough within easy reach of the Yorkshire Cleveland Hills.

Housing accommodation will be made available and the Council will consider the payment of removal expenses and travelling expenses of the successful candidate and his family.

Applications on forms obtainable from me are to be submitted to me on or before Thursday, 31st August, 1961.

HUGH CALDWELL,
Town Clerk.

Municipal Buildings,
Redcar. 8859

BOROUGH OF NUNEATON
ASSISTANT ARCHITECT

Applications are invited from suitably qualified persons for this position. Salary A.P.T. III/IV, £960—£1,310 according to qualifications.

Housing accommodation will be made available if necessary.

The post provides scope and opportunity for a varied experience as the Borough Council has a large building programme including houses, flats, swimming baths, schools and other public buildings.

Further details and forms of application which must be returned not later than the 2nd September, 1961, may be obtained from me.

A. A. CRABTREE,
Town Clerk.

Council House,
Nuneaton.
August, 1961. S8862

UNIVERSITY OF NIGERIA, NSUKKA

Applications are invited for the posts of (*a*) ONE SENIOR LECTURER IN ARCHITECTURE, (*b*) ONE LECTURER IN ARCHITECTURE in the College of Architecture at the University of Nigeria, Nsukka. The appointees would be required to start and develop the College of Architecture and participate in the architectural supervision of university projects for which latter function an honorarium of not more than £500 per annum will be paid to each appointee. Qualifications: For post (*a*) A good honours degree and/or professional registerable qualifications at least five years of combined teaching and practical professional experience. Salary scales £2,275 by £75 to £2,575. For post (*b*) A good honours degree and/or professional and registerable qualifications, some teaching and practical professional experience desirable. Salary scales £1,200 by £75 to £1,650 bar; £1,725 by £75 to £2,175. Point of entry depending on qualifications and experience. Passages paid for appointee, wife and five children under 11 years, on appointment, leave after 21 months' tour and termination. Children's and car allowances, superannuation scheme. Accommodation with hard standard furniture. Detailed typewritten application in sextuplicate naming three referees by 20th August 1961 to London Representative, University of Nigeria, 33 Craven Terrace, W.2, from whom further details may be obtained. 8858

ROYAL BOROUGH OF KINGSTON-UPON-THAMES
APPOINTMENT OF ASSISTANT ARCHITECT
(A.P.T. Grade V, £1,310—£1,480 per annum, plus London weighting).

Applications are invited for the above-mentioned appointment.

The Council will give assistance towards the provision of housing accommodation, if required.

Details and application form obtainable from Borough Surveyor, Guildhall, Kingston-upon-Thames and returnable by 21st August, 1961.

L. V. POWELL,
Town Clerk.

Guildhall,
Kingston-upon-Thames.
28th July, 1961. 8860

Architectural Appointments Vacant

3s. per line; minimum 12s. Box Number, including forwarding replies, 2s. extra

EXPERIENCED ASSISTANTS required in busy office with interesting and varied practice. Five-day week—Pension Scheme. Reply giving full particulars of experience, age, and salary required to: Godman & Kay, FF/R.I.B.A., "Milnwood," 13, North Parade, Horsham, Sussex. S8640

ARCHITECTURAL ASSISTANT. Man or Woman with some office experience required for interesting country practice. L. H. Bond and R. W. Read, 44, Castlegate, Grantham. TC3851

LANCHESTER & LODGE urgently require ARCHITECTURAL ASSISTANTS of all grades. Work includes hospitals, laboratories, universities, offices, housing, etc. Write full particulars or ring for interview: 10, Woburn Square, W.C.1. MUS 0845-6-7. TC7248

EDWARD D. MILLS & PARTNERS require additional qualified STAFF for a variety of new work including housing, schools, industrial and churches. Enthusiasm and initiative important. Five-day week. Write giving full details to 9/11, Richmond Buildings, Dean Street, London, W.1. TC7061

A FEW vacancies still left for experienced and confident ARCHITECTS to fill positions of responsibility in a growing and varied practice with industrial and commercial work throughout the southern half of the country. Applicants must have initiative as well as architectural ability to carry through contracts up to £100,000, working directly with Principals but with minimum supervision. Apply in writing to Thomas Mitchell & Partners, 20 Bedford Square, London, W.C.1. TC7443

EXPANDING young office requires Intermediate Standard ASSISTANTS with talent for interior design and co-ordination of mechanical services. Good salary and prospects for the right men. Galberg & Weal, 15, Cleveland Square, Bayswater, W.2. AMB. 3066. S8828

THE occasional services of an ARCHITECT are required by a small catering company to plan alterations and rebuilding when the occasion arises. Applicants must be versed in catering work and have a good style and preferably available in London or Southern Home Counties. Box S8737.

DAVID STERN AND PARTNERS are still looking for two first-rate experienced ASSISTANTS. The work is of a varied nature including large and small scale domestic, commercial and industrial developments. There is ample scope for advancement leading to association. Salaries between £1,000—£1,250 p.a. according to ability. Please apply to 24 Gloucester Place, W.1. HUNter 0451. S8785

HAMPSTEAD: Congenial office seeks ARCHITECTS and ASSISTANTS who like and can cope with responsibility. New Schools, Housing, Hospital and development projects, etc., England and overseas. Applicants at all levels of experience will be considered. Salaries up to £1,400. Barron & Smith, 13a, Heath Street, N.W.3. HAMpstead 2636. S829

Architectural Assistant

Architectural Assistant required in Company Architect's Department to work on an interesting industrial and commercial building programme. Good working conditions. Fares paid for evening classes. Five day week, pension scheme. Applicants with three years' office experience are asked to write giving particulars of age, experience and salary required to :—

Company Architec
COATES BROTHERS & C
ST. MARY CRAY, Nr. ORPI
KENT

ARCHITECTS

SENIOR ARCHITECTS
ASSISTANT ARCHITECTS
ARCHITECTURAL DRAUGHTSMEN

CRUDENS Architects' Departments in Musselburgh and Glasgow have vacancies for assistants with ability, initiative and a progressive outlook for interesting and varied work on large scale projects requiring a high standard of design.

Salaries will be commensurate with qualifications, experience and ability. Staff Pension Fund. Applications, which will be treated in strictest

ARCHITECT

salary scale

£800 — £1000 —

according to experience and
Senior appointments eligible to
in Bonus scheme. Five day we
Three weeks holiday per
Pension scheme for Senior
addition to Government G.P.
Vacancies at Cardiff, Swans
Shrewsbury. Write please, giv
information re age, qualifi
experience, appointments he
to the

Secretary
Sir Percy Thomas & Son
10, Cathedral Road
Cardiff.

WAVY

BATTLE SUSSEX
Telephone: Battle 468 (4 lines)

UNIVERSITY OF HONG KONG
LECTURESHIP IN ARCHITECTURE

Applications are invited for the above-mentioned post. Applicants should be graduates and A.R.I.B.A., with experience in architectural practice. Evidence of ability to teach Building Construction and Materials, to demonstrate simple building techniques in the workshop, and to assume from time to time the duties of Studio Master in any year, should be submitted with applications.

Annual salary (superannuable) is £2,150 × £75—£2,825 (man) or £1,600 × £60—£2,140 (woman). The equivalent of income tax in the Colony is comparatively low.

First-class sea passages are provided for expatriate staff and their families on first appointment and leaves. Accommodation at reasonable rental is provided for those recruited from abroad.

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Applications close, in Hong Kong and London, on 8th September, 1961. 8852

BURGH OF MOTHERWELL AND WISHAW
ARCHITECTURAL AND HOUSING DEPARTMENT

Applications invited from suitably qualified persons for the following superannuated appointments:

SENIOR ARCHITECTURAL ASSISTANTS (two posts), A.R.I.B.A., qualification—salary scale £1,[illegible]—£1,[illegible] per annum in each case.

[illegible]

BOROUGH OF EALING
TOWN PLANNING ASSISTANT, A.P.T. IV

(£1,185—£1,355 inclusive) with recognised town planning qualification. Experience necessary.

Full particulars and application form from: Borough Surveyor, Town Hall, Ealing, W.5.

Closing date: 21st August, 1961.

E. J. COPE BROWN,
Town Clerk.
8885

METROPOLITAN BOROUGH OF BATTERSEA

Applications are invited for the following permanent appointments:—

(1) ASSISTANT BUILDING SURVEYOR, A.P.T. Grade III (£960—£1,140).
(2) ASSISTANT BUILDING SURVEYOR, A.P.T. Grade II (£815—£960).
(3) JUNIOR ASSISTANT BUILDING SURVEYOR, General Division (£260—£780).
(4) JUNIOR ASSISTANT QUANTITY SURVEYOR, General Division (£260—£780).

London weighting is payable in addition—£40 per annum (at age 26 and over) for grades below A.P.T. III and £45 per annum for A.P.T. III.

Commencing salaries will be according to qualifications and experience. Local Government experience is not essential.

Preference will be given to applicants for posts (1) and (2) who are taking examinations of the Royal Institution of Chartered Surveyors (Building Sub-division).

Posts (3) and (4) are for office juniors and offer an opportunity for training as building surveyor and quantity surveyor respectively.

The appointments are subject to the Local Government Superannuation Acts, 1937-1953.

Further particulars and application forms are obtainable from the Borough Engineer and Surveyor, Town Hall, Battersea, S.W.11.

Closing date 21st August, 1961

C. M. W. S. FREEMAN,
Town Clerk.
S8826

CUMBERNAULD NEW TOWN
ASSISTANT CHIEF PLANNING [illegible]

[illegible]

swimming baths, schools and other public buildings.

Further details and forms of application which must be returned not later than the 2nd September, 1961, may be obtained from me.

A. A. CRABTREE,
Town Clerk.

Council House,
Nuneaton.
August, 1961. S8862

UNIVERSITY OF NIGERIA, NSUKKA

Applications are invited for the posts of (*a*) ONE SENIOR LECTURER IN ARCHITECTURE, (*b*) ONE LECTURER IN ARCHITECTURE in the College of Architecture at the University of Nigeria, Nsukka. The appointees would be required to start and develop the College of Architecture and participate in the architectural supervision of university projects for which latter function an honorarium of not more than £500 per annum will be paid to each appointee. Qualifications: For post (*a*) A good honours degree and/or professional registerable qualifications at least five years of combined teaching and practical professional experience. Salary scales £2,275 by £75 to £2,575. For post (*b*) A good honours degree and/or professional and registerable qualifications, some teaching and practical professional experience desirable. Salary scales £1,200 by £75 to £1,650 bar; £1,725 by £75 to £2,175. Point of entry depending on qualifications and experience. Passages paid for appointee, wife and five children under 11 years, on appointment, leave after 21 months' tour and termination. Children's and car allowances, superannuation scheme. Accommodation with hard standard furniture. Detailed typewritten application in sextuplicate naming three referees by 20th August 1961 to London Representative, University of Nigeria, 33 Craven Terrace, W.2, from whom further details may be obtained. 8858

ROYAL BOROUGH OF KINGSTON-UPON-THAMES
APPOINTMENT OF ASSISTANT ARCHITECT

£1,310—£1,480 per annum, plus [illegible]ndon weighting).

[illegible]nvited for the above-mentioned

[illegible] give assistance towards the [illegible]g accommodation, if required. [illegible]lication form obtainable from [illegible], Guildhall, Kingston-upon-[illegible]able by 21st August, 1961.

L. V. POWELL,
Town Clerk.

[illegible]ames.

8860

Appointments Vacant

[illegible]inimum 12s. Box Number, [illegible]warding replies, 2s. extra.

[illegible] ASSISTANTS required in [illegible] with interesting and varied [illegible] week—Pension Scheme. Reply [illegible]ulars of experience, age, and [illegible] Godman & Kay, FF/R.I.B.A., [illegible]orth Parade, Horsham, Sussex. S8640

[illegible]AL ASSISTANT. Man or [illegible]ith some office experience [illegible]sting country practice. L. H. [illegible]ead, 44, Castlegate, Grantham. TC8851

[illegible] & LODGE urgently require [illegible]URAL ASSISTANTS of all [illegible]cludes hospitals, laboratories, [illegible] housing, etc. Write full par- [illegible] for interview: 10, Woburn [illegible]78 6845-6-7. TC7248

[illegible]ILLS & PARTNERS require [illegible]alified STAFF for a variety [illegible]ding housing, schools, indus- [illegible]. Enthusiasm and initiative [illegible]ay week. Write giving full [illegible]hmond Buildings, Dean Street, TC7051

[illegible]e still left for experienced and [illegible]CHITECTS to fill positions of [illegible] growing and varied practice [illegible] commercial work throughout [illegible] the country. Applicants must [illegible]well as architectural ability to [illegible]tracts up to £100,000, working [illegible]ipals but with minimum super- [illegible]writing to Thomas Mitchell & [illegible]rd Square, London, W.C.1. TC7443

[illegible]young office requires Inter- [illegible]diard ASSISTANTS with talent [illegible]sign and co-ordination of [illegible]. Good salary and prospects [illegible]. Galberg & Weal, 15, Cleve- [illegible]water, W.2. AMB. 3066. S8828

[illegible] services of an ARCHITECT [illegible]y a small catering company to [illegible]d rebuilding when the occasion [illegible] must be versed in catering [illegible]ood style and preferably avail- [illegible] Southern Home Counties. Box [illegible]

[illegible] AND PARTNERS are still [illegible]o first-rate experienced ASSIS- [illegible] is of a varied nature including [illegible]ale domestic, commercial and [illegible]ents. There is ample scope [illegible]ading to association. Salaries [illegible]250 p.a. according to ability. [illegible]Case apply to 24 Gloucester Place, W.1. HUNter 0451. S8785

HAMPSTEAD: Congenial office seeks ARCHITECTS and ASSISTANTS who like and can cope with responsibility. New Schools, Housing, Hospital and development projects, etc., England and overseas. Applicants at all levels of experience will be considered. Salaries up to £1,400. Barron & Smith, 13a, Heath Street, N.W.3. HAMpstead 2636. 8829

TAUNTON Architect has vacancies for competent ASSISTANTS of R.I.B.A. Intermediate standard. Salary up to £900 p.a. according to ability. Please write to John G. Pearce, Architect, Castle Moat Chambers, Bath Place, Taunton, or telephone 81791 for appointment. S8855

ERNO GOLDFINGER requires several qualified ASSISTANTS with at least two years' experience to take part in a growing programme of interesting work which includes large office buildings, central developments, Local Authority housing, schools and private houses. Good salaries and scope for men with sound knowledge of construction. Phone HYDe Park 5657. TC8328

NORTH & PARTNERS, Chartered Architects, Maidenhead, have vacancies for Senior and Intermediate ARCHITECTURAL ASSISTANTS. Varied practice offers interesting scope to applicants with ability. Five-day week—pension scheme, etc. Apply in writing, giving details of experience, salary range expected, and any other relevant information. TC8455

SENIOR ASSISTANT ARCHITECT required in private practice South East Coast town. Must be experienced with ability to handle contracts from sketch plan to completion. Work consists of industrial, flats, schools, shops, etc. Starting salary £1,200 or according to ability. Housing accommodation available. Apply in own handwriting. Box TC7452.

ELIE MAYORCAS requires ARCHITECTURAL ASSISTANTS with a minimum of three years' office experience in this country. Write, giving brief particulars of architectural education and experience, and salary required, to: 13, David Mews, Baker Street, W.1. TC7014

BRYAN & NORMAN WESTWOOD require ASSISTANT ARCHITECTS. Salaries up to £1,200. Apply to 21 Suffolk Street, S.W.1, Trafalgar 1106, or 5 Balfour Road, Weybridge, Surrey, 6088. TC8600

£1,000 / £2,000 p.a. will be paid to experienced competent ARCHITECTS by a private practice in the City of London. The work will be primarily on the drawing board on new and interesting projects of magnitude. A high standard of design and detailing ability is required. Please apply in writing to Box TC9360.

£850-£1,600. ARCHITECTURAL ASSISTANTS required. Long term prospects. Non-contributory pension and life assurance schemes. Five-day week. Telephone or write: Ronald Ward & Partners, 29, Chesham Place, Belgrave Square, S.W.1. Belgravia 3361 TC6105

INTERMEDIATE standard ASSISTANT needed by small progressive office for work on wide range of jobs. Offices in pleasant surroundings. 35-hour week ending daily at 4.30. Phone Riley & Glanfield at CHAncery 7328 or write to 6, Raymond Buildings, Gray's Inn, W.C.1. TC8624

ASSISTANT ARCHITECT with experience and/or interest in schools and multi-storey flats. Write: ERIC LYONS, MILL HOUSE, BRIDGE ROAD, HAMPTON COURT, MIDDX. TC3562

ASSISTANT ARCHITECTS required in Croydon office. Schools, hospitals and swimming baths, etc. Salary up to £1,500 according to age and experience. Apply George Lowe & Partner, 79 George Street, Croydon 3608. TC8616

WOLVERHAMPTON. Norman & Dawbarn require an ASSISTANT in their Midlands Office. This position could afford useful experience of small and medium size jobs in a young but expanding office, with possibility of later transfer to London Office or overseas if desired. Minimum two years' office experience required if qualified, four years' if Intermediate. Excellent working conditions, five-day week, three weeks' leave, L.V's, etc. Write or phone 7 Portland Place, London, W.1 (Langham 8011), or Heantun House, Salop Street, Wolverhampton (Tel. 27387). TC8548

SENIOR ASSISTANTS required immediately Salary by arrangement. Theo. H. Birks, 38, Portland Place, London, W.1. LAN. 7236. TC1486

WELLS, HICKMAN & PARTNERS require first-rate ASSISTANTS for varied and interesting work. Salary according to ability and experience. Phone: TERminus 1404. TC8349

THERE is more to it than drawing you know! Are you kept pinned to the Drawing Board day in day out? If so, we can offer you much greater scope in gaining all-round experience and carrying through the varied duties of an ARCHITECTURAL ASSISTANT. Responsibility positively encouraged. Holiday arrangements honoured. Write telling us your experience with the usual particulars; it may well be to our mutual advantage (Box TC8416) or telephone MAYfair 9556.

ARCHITECTURAL ASSISTANTS required in Busy Bloomsbury office with varied practice. Good salary and prospects for suitable applicants. Five-day week. Write giving particulars of age, qualifications, experience, etc., to Box 918, c/o 7, Coptic Street, W.C.1. TC5647

EXPERIENCED ASSISTANT ARCHITECT required in West End office. Varied work, must be competent designer and administrator. Opportunity for advancement to position of responsibility. Salary according to age and experience. Luncheon vouchers. Five-day week. Box TC8425.

SENIOR and JUNIOR ASSISTANT ARCHITECTS required with progressive outlook, for work on a wide range of projects. Office in provincial town, easy reach of London. Salary according to age and ability. Five-day week. Box TC8426.

LOUIS DE SOISSONS, PEACOCK, HODGES, ROBERTSON AND FRASER require ASSISTANTS for interesting work on a wide range of projects in their Exeter office: good salaries will be offered to suitable applicants. Applications, giving details of age, training and experience, should be sent to 12, Baring Crescent, Exeter. S8725

TRIPE & WAKEHAM, Chartered Architects, require ASSISTANTS in all grades to work in their London Office on interesting projects both in this country and abroad. Salary by arrangement. Telephone WELbeck 7744 or write to 15, Fitzhardinge Street, London, W.1, for an appointment. S8709

SEELY AND PAGET have immediate vacancy in their City Office. Near Final R.I.B.A. standard with experience. Successful candidate will be placed on appropriate scale of salary commensurate with qualifications and experience. Holiday arrangements respected. Write 41 Cloth Fair, E.C.1, or Telephone MET 8511. TC8401

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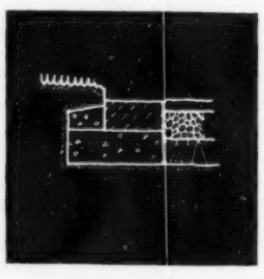
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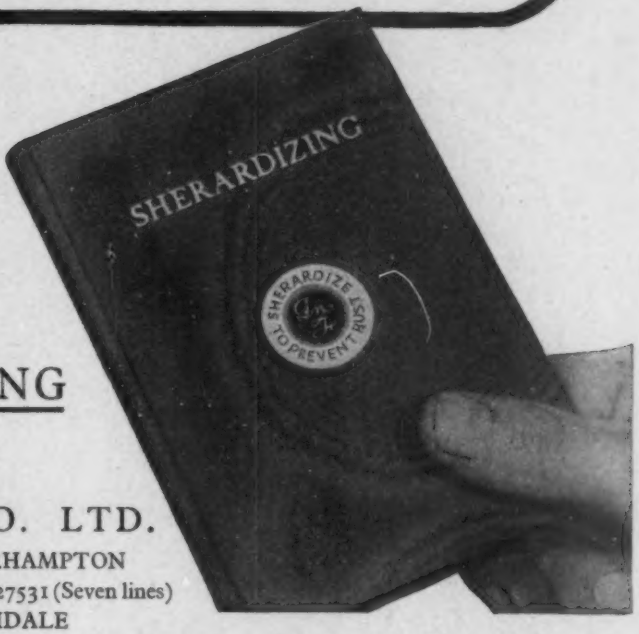
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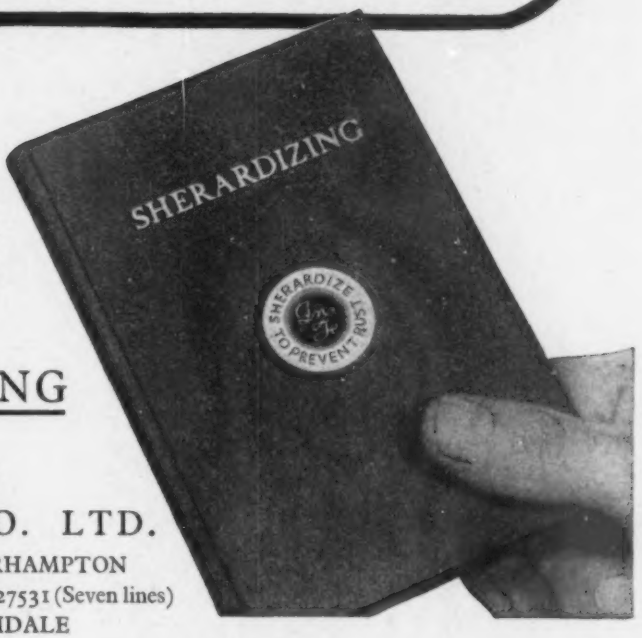
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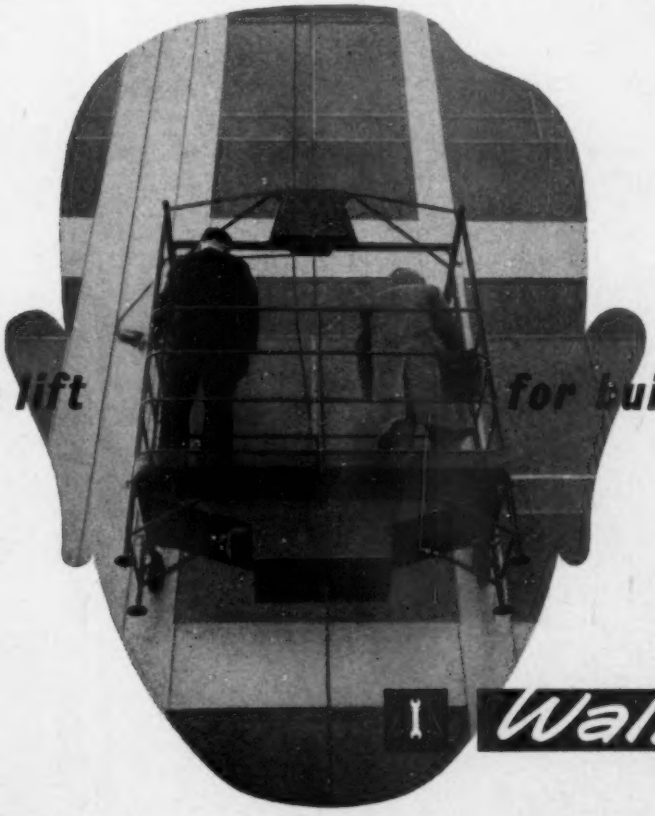
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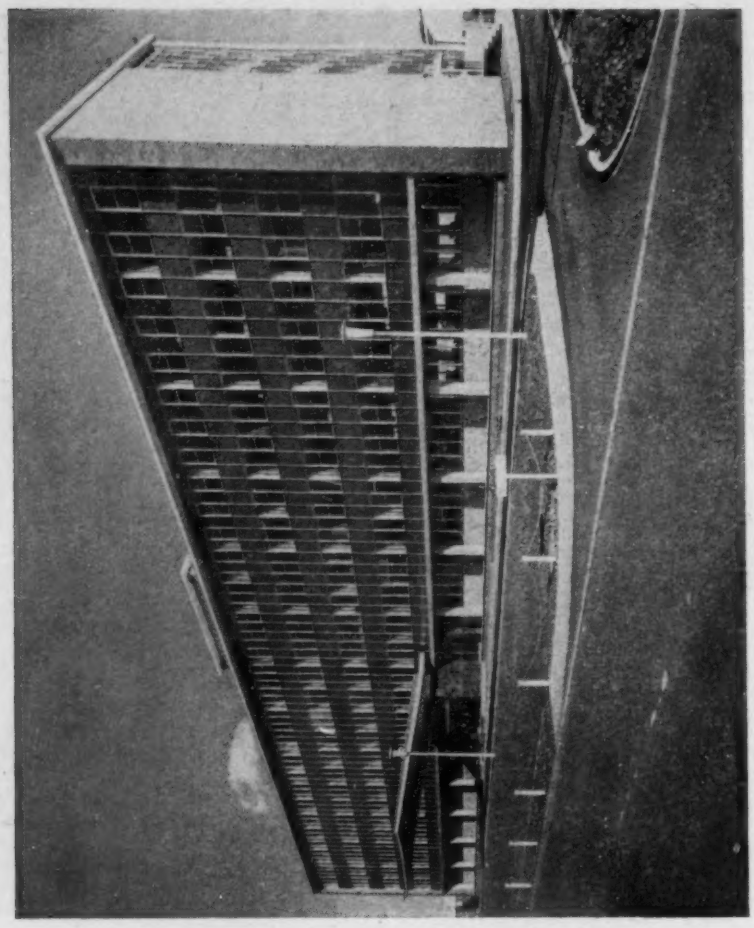
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